NEW-YORK FARMER
AND
Horticultural Repository.

VOL. 3.] NEW-YORK, FEBRUARY, 1830. [NO. 2.

[For the N. Y. Farmer.]

ART. XXI.—*The Food of Plants.* No. I.

Plants are endowed with organs which enable them to receive, digest and assimilate food, indispensable to their growth, maturity and reproduction. To ascertain what this food is; to know how to provide and adapt it to the wants of cultivated crops; and to avail ourselves of this knowledge, in the practical operations of husbandry, are objects of interest to the cultivators of the soil.

Opinions as to what constitutes the food of plants, have been various and contradictory. Bacon and other philosophers of the 17th century, maintained that *water* was the sole food of plants. Tull, Du Hamel and others, contended, that *pulverized earths* constituted their proper food. Macgraff, Bergman, Kirwan, &c. added *gasses*, and Hunter *oils*, to the bill of fare. But without detailing the various opinions which have been advanced upon this subject, by philosophers and practical men, I shall asume the conclusion, which I believe science and experience have conjointly arrived at, viz.: *that vegetable and animal substances form the true food of plants.*

This food exists in the air, in water, and in the earth; and the united agency of these elements, together with that of heat, is indispensably necessary in preparing it, and in conveying it to the organs of the living plants.

It has been well established by accurate experiments, that the mere earths, the four principal of which, lime, clay, sand and magnesia, are generally found combined in all fertile soils, are insufficient to support a healthy vegetation, even with the aid of air and water. The experiment of Giobert, cited in your Journal for December, is an illustration in point, as well as a proof that plants do not possess the properties ascribed to the chamelion, of living exclusively upon air. The experience of every intelligent farmer will satisfy him, that it is neither sand, clay, lime, magnesia, or water, either separately or combined, that affords the aliment of plants; but the animal and vegetable matters blended with them by nature or art. Thus we find, that earth, taken from a cellar or well, below the surface soil, remains barren and unproductive, until it becomes saturated with vegetable and animal matters. Hence the fecundity of new cleared lands, where this food of the vegetable family has been accumulating for ages. Hence the fertility of river alluvians, which are a combination of vegetable and earthy materials, collected and deposited by the waters. And hence the poverty of marine alluvians, in which the proportion of vegetable remains is comparatively small. Air and water are indispensable to animal life, yet these elements are not considered actually *food* for animals. Animals, again, unavoidably consume earthy matters. The dung of the sheep is found to contain a large per cent. of sand, lime and clay. Yet no one thinks of administering these as food to the animal. Plants too contain earths. Whether these are essential, or are unavoidably introduced with the alimentary juices, is a point yet disputed.

Thus it seems that animals and vegetables subsist on food similar in its elementary principles, though dissimilar in its combinations. The animal has organs fitted to take in and digest its food in a perfect or undecomposed state; and being possessed of locomotive powers, is enabled to roam in search of it. The habits of plants are fixed and stationary; and from their peculiar organization, they are unable to receive their aliment until it has completely undergone chemical decomposition, or a separation of its parts. During this process of decomposition, the component parts of the animal or vegetable are separated and scattered; a part mingles with the atmosphere,—a part is dissolved and carried off by the rains, and a part generally remains on the earth. These elements, thus scattered, are conducted to the roots and leaves of plants, by the agency of air and water, where they are absorbed, form new combinations, according to fixed laws, and become constituent parts of the new vegetable. Thus there is a constant transmutation of matter going on from the dead to the living generation.

As soon as putrefaction commences, the volatile parts are evolved in the form of gasses, which are perceptible to the sight, on directing our attention to a pile of recent stable dung,—and to the *smell*, on approaching putrescent vegetable or animal matter. These gasses are a part of the food of plants. They are the only food received through the medium of the leaves, whose adaptation to this office is wonderful, a single leaf contains from 50,000 to 150,000 pores. Succulent leaved plants receive much nourishment through these. They are also, peculiarly fitted to nourish what we term hoed crops, such as corn, potatoes, turnips, vines, &c. They not only afford food to plants, but they mechanically improve the soil, when the fermenting process takes place there. They act like yeast in the unbaked bread: By rendering the soil more open, they facilitate the extension of the roots, and the introduction of heat, air, and moisture, the indispensable agents of vegetable nutrition. There is, therefore, economy in applying unfermented manures to these and like crops; and great waste in the old practice of permitting them thoroughly to rot in the yard or pile. The fertilizing properties are found by experiment to be diminished one-half by the rotting process. These remarks imply the propriety of *burying* the manure in the soil.

Albany, Feb. 4. *(To be Continued.)*

[For the N. Y. Farmer.]

ART. XXII.—*Receipts and Expenditures of a Labourer's Family, consisting of Father, Mother, and three children, the latter earning nothing.*

The following statement is copied from an English work. It is the mean result of repeated inquiries amongst the agricultural labourer's in a northern county of England. I am not aware that we have any class exactly answering to that of an "agricultural laborer" in this country, but a small farmer, I apprehend, comes nearest to it.—What principaly attracted my attention, was the small amount necessary for the support of a family, consisting of four persons. Could any of your correspondents furnish you with a comparative estimate derived from this country, the result would be curious and interesting.

Wages of the Husband per week,	$2, 64	$137, 28
Do. Wife,	66,	34, 32
Garden produce by potatoes 24 bushels at 44 cents per bushel,		10, 56
Do. other produce, vegetables and fruit,		8, 88
Pig, parts disposed of,		4, 44
Sundries, about		8, 88
Total		$204, 36

Expenditures of the same family.

Potatoes, about 12 loads or 36 bushels, at $1 32 per load, per year,	$15, 84
Salt, about 56 lb. or 1 bushel per annum,	3, 75
Cheese, about 2 lb. per week, at 11 cts. per lb.	12, 44
Meal, bread, and flour, about 88 cts. per week,	45, 76
Butter, about 1 lb. per week,	11, 10
Sugar, about 1 lb. per week,	6, 66
Treacle, (Molasses) ½ lb. per week,	2, 00
Candles, ½ lb. per week,	4, 44
Tobacco, 1 oz. per week,	4, 44
Bacon 1½ lb. per week,	6, 66
Pepper and spices, 4 cents per week,	2, 08
Soap 1 lb. per week,	4, 44
Tea, 6d. per week,	5, 54
Clothing, including bedding and shoes, &c., for man and wife,	13, 32
Do. for children,	11, 10
Rent,	26, 64
Milk,	8, 88
Sundries, including savings, medicines, &c., at the rate of about 1¾ cents per week,	23, 50
Total	210, 58

The original estimate being in pounds sterling, I have altered it to dollars and cents, which, in the aggregate, causes some difference. I have assumed the English shilling to be 22 cents, which it is not exactly. In the original, both totals are £50 exactly.

It appears then, that about $50, will clothe and support an agricultural labourer in England. A farm labourer with us, if I am rightly informed, beside obtaining his board, would think himself poorly remunerated at 50 dollars a year. What has surprised me most in this estimate, is the small sum for clothing, the comparative large sum paid for luxuries, such as tea, spices and tobacco, and the very small amount of animal food consumed by the labourer and his wife. It is presumed that the children do not eat it, and supposing that the man and wife consume the same quantity $3,33 supply them each with animal food for one whole year; other suggestions present themselves, but I do not wish to occupy more space in your valuable Journal. Respectfully, J. E. D.

ART. XXIII.—DOMESTIC ECONOMY.—*Variety in food.—With regard to the modes of Cookery.—To make kitchen vegetables tender.—To prepare Verjuice for bottling and keeping.—Bread of the Shetland and Orkney Islands.*

From various experiments it appears that the chyle is of a different quality when produced from different alimentary substances; and as this nutritive fluid has to supply the various textures and juices of the body, differing in composition from each other, may not a chyle, composed of these different alimentary materials blended together, be more adapted for the purpose than that from a single substance? It is well known that a successive change of aliments is peculiarly grateful, and, indeed, almost essential to the human appetite, and that it is apt to pall on the repeated and daily use of one particular food; and that this is not a consequence of over-luxurious corruptions may be fairly inferred from the fact, that graminivorous animals are fond of change of pasture, and of blending a variety of herbs and grass in their feeding; and birds, too, though one species of food, such as particular grain, should be in abundance before them, delight to have a variety in their meals.

With regard to the Modes of Cookery, it is almost enough to say that that kind is to be preferred, which, while it renders the food sufficiently tender and savoury, so as to excite all those organs connected with the digestive functions, yet leaves some labour for the stomach itself. On this account the roast beef and plain joints of the English seem, on the whole, preferable even to the best made dishes of the French, which either concentrate the nourishment too much, or present it in a state too nearly approaching the chyle to which it is to be reduced.—*Ed. Rev.*

When peas, French beans, and similar productions, do not boil easily, it has usually been imputed to the coolness of the season, or to the rains. This popular notion is erroneous: the difficulty of boiling them soft arises from a superabundant quantity of gypsum imbibed during their growth. To correct this, throw a small quantity of subcarbonate of soda into the pot along with the vegetables, the carbonic acid of which will seize upon the lime in the gypsum, and free the legumes, &c., from its influence.

To prepare Verjuice for bottling and keeping.—Express the juice of unripe grapes or gooseberries, without bruising the seeds, which would give a disagreeable taste to the liquor. Strain the juice through a linen cloth; bottle it, and expose it, uncorked, to the sun for six or seven days. The liquor will ferment, and a part will be lost in froth, which must be replaced every morning. When the fermentation has ceased, decant the liquor into other bottles, cork them, and place them in the cellar for use. In this way, the juice of any sour fruit as the citron, crab, &c., may be preserved, and no expence of sugar incurred till the moment it is to be used. Verjuice is much used in France as a summer beverage; a little syrup or sugar is mixed with a small part of it, which is then well shaken, and afterwards poured into a glass, and filled up with water. Gooseberry verjuice is commonly used; and, when mixed with sugar, it is sold by the confectioners of Paris, under the name of Sirope de Groseilles (*Gooseberry Syrup.*) Any gardener or cottager might make it for himself.

Bread of the Shetland and Orkney Islands.—Over those islands, with the exception of the capi-

tal towns of Kirkwall and Lerwick, the superior classes are compelled to bake their own bread, and this they do in great perfection without the assistance of yeast. Their method, which is as follows, may be adopted with great advantage where yeast is difficult of attainment: Mix two pounds of mashed potatoes with a table spoonful of yeast (or double that quantity of porter,) two table-spoonfuls of flour, and a table-spoonful of salt; beat these ingredients well together, adding as much luke-warm water as will reduce the composition to the consistency of butter. Let it stand for twenty-four hours in a closely covered earthenware jar, when it will be fit for use. For every pound of flour to be baked, take four table-spoonfuls of the composition; mix up two thirds of the flour, adding a little lukewarm water or fresh cream, then knead the remainder of the flour into the mass of dough; give it the desired shape, and let it stand four hours covered with a large dish, before it is put into the oven. Replace the composition by an equal quantity of mashed potatoes, flour, and salt, in the proportion stated above; and beat the whole together in the jar, having first poured off the liquid collected at the bottom of the vessel. Let the jar be kept well covered, in a warm place in winter, and a cold place in summer. The loaves or rolls may not rise well on the first or second attempt; but after a few repetitions, they will be found superior to baker's bread, and the composition, if *daily* renewed according to the directions, will continue for years to improve in quality.

The Necessary hours of Labor.—In a letter of Dr. Franklin to B. Vaughan, Esq., in 1784, at that time M. P. for the borough of Calne, Wiltshire, is the following remarkable paragraph:—

"It has been computed by some political arithmetician, that if every man and woman would work four hours a day on something useful, that labour would produce sufficient to procure all the necessaries and comforts of life: want and misery would be banished out of the world, and the rest of the twenty-four hours might be leisure and pleasure."

"Why should poverty exist in the world?" &c.

[From the American Farmer.]

ART. XXIV.—*Red Carrot as Food for Horses.*

SIR,—Although I do not think the following remarks are exactly appropriate to the intent of your Magazine, yet they may not be considered entirely out of place.

Having for several years associated more or less with English agriculturists, I have been frequently informed by them, of the various uses and valuable properties of the common red carrot, a vegetable well known to every family, but almost wholly unknown as applicable to other important purposes in this country.

The first trial I made of them as food for horses, some years back, induced me to use them regularly ever since; experience, therefore, has confirmed me in the opinion, that of all the tribe of vegetables yet known, there is nothing comparable to the carrot.

In the spring of 1823, I rented about the *fifth* of an acre of ground,—it had been previously manured and ploughed—on which I sowed the orange carrot seed; owing to a dry and cold spell of weather they did not come up so soon as they ought to have done, and the continued drought when they did come up, retarded their growth materially; it was not till mid-summer they were refreshed by continued showers, and assumed a luxuriant appearance. In the course of the season they were weeded three times and ploughed once; the beginning of November they were ploughed up, and yielded *ninety bushels.*

A friend of mine raised from one-third of an acre this season, 200 bushels,—his land was of a bad quality—a stiff clayey loam, which had been previously in grass and become a hard sod; with his accustomed good management, and attention to keeping down all weeds by means of a plough, I wholly attibutre his success; had my land been ploughed and managed as well as his, I should doubtless have had *one hundred and forty bushels*, owing to its better quality.

The expense attending the cultivation of an acre of carrots would be 15 dollars, an average crop, 500 bushels, making the first cost equal to three cents per bushel. Those who have large crops of cattle might be enabled to keep such stocks without expense in good order throughout the winter, and good farms depend nearly as much upon the effect of good keep, as the result of good breeding.

An erroneous opinion prevails that horses are not fond of carrots; it may doubtless be so in some rare instances. In this case they should be fed sparingly at first, and a fondness inevitably follows. I have frequently endeavored to discover whether they did not prefer them to oats and corn, however, by giving the three at once, they would eat of each alternately without appearing to show any preference.

From repeated experiments I have estimated a bushel of carrots at least equal to a bushel of oats, and am not certain they are not equal to a bushel and a half; their proportion of nutritive matter has been accurately ascertained, and found to exceed that of almost any other vegetable.

In recommending to the public the cultivation and use of this valuable root, I can have no sinister motive, but I will venture to affirm, that those who will give it a trial, will not be disappointed in its effects

The great variety of disorders to which horses are subject, arise chiefly from high feeding and the want of regular exercise,—how admirably calculated then is the carrot as a wholesome and medicinal food, improving the wind, gently opening the bowels, preserving the feet from fever, (the forerunner of thrash, &c.) and giving to the coat a sleek and polished appearance.

For the information of those who are unacquainted with the proper manner of cultivating them, I give you the mode pursued in England, in the hope that some of your subscribers may be benefitted thereby.

The ground should be deeply ploughed in the fall of the year. In the spring it should be thrown into ridges, about two feet six inches apart—manure is to be spread in the furrows—which furrows are then to be thrown back, leaving the ridges the same distance apart as before. A small furrow is to be made on the top of the ridges, by means of a stick or hoe—the seed sprinkled in the furrows, after which a light roller is to be passed over the ground.

When the plant is about two inches high, the ground should be hoe-ploughed, and the carrots singled out about three or four inches apart. While growing they

should be kept clean from weeds by means of a hoe or hoe-plough. In November they may be ploughed up, by first running the plough close to the plant, and then ploughing them out. No other care is necessary to preserve them through the winter, than to secure them from the frost.

I am, Sir, your ob'dt servant,
W. Wallace Cook.

Art. XXV. *Miscellaneous Selections from Foreign Publications.*

Use of Systematic Names.—Every gardener is at home with every other gardener, no matter whether he ever saw him before, or in what part of the country he may find him, or even if they do not understand the common language of each other. To be convinced of this, it is only necessary to observe the personal intercourse of the Continental and British nurserymen, which, with a few exceptions, is almost entirely carried on by pronouncing a few systematic names of plants; these systematic names being what may be called the universal language of gardeners. If, therefore, the systematic names of plants and animals were in universal use, there would be, to a certain extent, a universal language, and this, we think, is one reason why systematic names should be adopted into all languages without altering their terminations. There are few travellers who have not experienced the advantages of belonging to that universal society, the Masonic brotherhood; the Society of Jesus is another universal institution; and the universal propagation of the Christian religion by missionaries, and of the Bible by the Bible Societies, will tend towards uniting mankind in one family. The probable destiny of the human race, it is not unreasonable to suppose, is ultimately to speak one language, to use the same weights and measures, to be governed by nearly the same laws, and to be much nearer an equality in point of knowledge, manners, and even property, than they are at present. The changes required before this state of things is attained may be various, and their accomplishment may be distant; but they have already been effected to a certain extent: the English and French languages and literature are spreading every where; and gardeners and naturalists are every where springing up, who all make use of the same systematic names. It ought to be gratifying, therefore, to gardeners, to know, that, independently of other advantages, in the mere acquirement of systematic names of plants, and in teaching them to others, they are absolutely contributing to the spreading of a universal language, and certainly, though slowly, clearing the way for the greatest human improvement that the mind can contemplate.—*London.*

Ploughing and digging very tenacious soils.—It may be useful now and then for farmers and gardeners to turn their attention to the implements with which they perform their principal operations; the most frequent and important of which, both in the farm and garden, are ploughing and digging. Now, the friction of the plough and the spade are very different in different circumstances. The most difficult soils to plough are strong, tenacious, flinty clays, such as those of Kent, when between the wet and dry.—Mr. Finlayson, in his excellent practical work, the *British Farmer*, observes, that, when the clays of Kent, Surrey, and Middlesex are betwixt the wet and dry, they adhere to the body of the plough like glue, and double or treble the friction that would otherwise take place. Hence the necessity of such clumsy unwieldy implements as the Kentish turnwrest plough, requiring five or six horses, to draw them. "Considering the great expense of working land with this plough," says Mr. Finlayson, "I began to consider, that, in place of a mould-board, three or four rods of

iron might be substituted. On trial I found it to answer the purpose completely; and I have no hesitation in saying that the most adhesive land may with ease be ploughed with the skeleton plough and one pair of good horses. The clay or earth being prevented from adhering to the plough, the draught is thereby much diminished; the whole surface of this plough not being more than one third or one fourth the surface of other ploughs will account for the ease of draught."

For diminishing friction in loamy soils, and in all such as can be worked with ease, the most perfect plough hitherto produced is that of Wilkie of Uddingston, near Glasgow. Wheels are generally placed under the beams of ploughs, with a view to render them easier to hold; but a wheel fixed like that of Mr. Wilkie is for the purpose of diminishing the friction of the land-side and sole. This wheel is placed

so as to incline and form an angle of about 30°, and following in the angle of the furrow cut by the coulter and share, it insures a greater degree of steadiness in the motion of the plough, than when rolling only on the botom of the furrow. The father of the present Mr. Wilkie constructed a plough on the above principle in 1825, and they have since been highly approved of both in clayey loams and free soils.—The sock, or share, is of cast iron, which is a great saving both in first cost and repairs; costing only 1*s.*, and ploughing at an average upwards of 10 acres.—The coulter alone requires to be taken to the smithy, the share being renewed by the ploughman t pleasure. The wheel, which is of cast iron, will last many years. The draught of this plough has been proved, at a public ploughing match in 1829, to be fully 30 per cent. less than that of the common swing-plough of the most improved form. The price is also lower than that of any iron plough now in use. A specimen may be seen at Weir's, Oxford Street, London, and we would strongly recommend a trial.—*Ib.*

Steam has never yet been applied to tillage, but I am perfectly convinced of its practicability, if the weight of the engine could be reduced so as not to sink in the soil, or consolidate too much the surface on which it moved. I have not yet seen any of the portable steam threshing-machines, but expect to have one fitted up by and by, which may be applied to other agricultural operations. Mr. Bell's reaping-machine appears to be a nearer approach to perfection than has hitherto been attained, and from what I learned, when at Perth, has given very great satisfaction. Steam could certainly be employed to great advantage in impelling this machine, as horse power is awkwardly applied when required to push instead of to pull forward.—*Ib.*

Education in the Canton of Argovia.—The little council of the canton of Argovia has issued an ordinance, in order to secure the benefits of education to children who are employed in manufactories. By this ordinance the owners of all such manufactories are compelled to establish a school, and provide a proper schoolmaster to instruct the children employed by them. One hour daily, or two hours every other day, is to be allowed them for the purpose. All these schools to be under the special superintendence of the counsellors of the schools. No manufacturer is allowed to receive a child into his establishment without a certificate from the clergyman of the parish that the child is of proper age.—*For. Qua. Rev.*

The Drainage of extensive Tracts of Marshy Country, by means of steam, begins to be adopted; though it is surprising that it has not long ere now become more general in the marshy and fenny districts of the eastern coast. A steam engine of 40-horse power, with a water-wheel 2 ft. in diameter, has lately been erected at Misterton, near Gainsborough, for the purpose of draining upwards of 6,000 acres belonging to different proprietors, and lying in four parishes. After the engine had worked one hour, it was ascertained that the main drain running from the carrs had been lowered eight inches, and that the drain into which the water was thrown, measured from the stop-gates of the engine to the sluice doors adjoining the Trent (which were kept closed), about three quarters of a mile in length, and about forty feet in breadth, had risen two feet.—*Far. Jour.*

The Mulberry Plantation, at Mitchell's town, near Cork, we regret to learn, has been utterly abandoned, as has that in England, near Slough, by the British Silk Company. The cause assigned is, that the air is too humid for the vigorous health of the insect.—*Loudon.*

[For the N. Y. Farmer.]

ART. XXVI.—*Common Earth-Worm, in the vicinity of Cayuga Lake—and Food of Moles.*

Gardeners in different countries, have very different enemies to encounter. We have no complaints to make of the *snail*, the *slug*, or the *ear-wig* which infest the gardens in England; and on this side of the Cayuga lake, we are even undisturbed by the *mole*, and the *rose-bug*.

But with all this exemption, we too have our troubles. *The common earth-worm* takes posession of our gardens, and thousands on thousands perforate the soil. In spring, while they are working near the surface, a heavy stream from a pump, sinks and disappears in less than 20 feet—on turning up the earth it seems discolored by their numbers.

It is said that they manure the ground; and in autumn some benefit may be received; but in spring, it is greatly overbalanced by their *poaching*, or that working of the soil, which causes it to harden in the sun like the clay of the brick-maker, and which lessens or destroys its absorbent power. In droughts, this new quality, as well as the hollow state of the ground, proves very unfavorable to short rooted plants.—Seedlings are often uprooted by these animals.

The earth-worm is found in every quarter of the globe, but as far as I have learned, the number with us is unexampled, and appears to be increasing. May not this result be partly ascribed to the total absence of the *mole* and of the *shrew-mouse*?* And might not these little quadrupeds make amends for their *heedless inroads*, by destroying these vermin? Perhaps the introduction of the shrew-mouse would be less dangerous.

These suggestions may be briefly explained. In the last number of SILLIMAN'S JOURNAL (Vol. XVII. No. 2,) is an extract relating to the natural history of the European mole. Various experiments are detailed to show "that *the mole is essentially a carnivorous animal*"—and that it feeds on sparrows, frogs, butchers-meat, worms, snails, wood-lice, and even on its own species. That "*the mole is not an herbivorous animal*, and only destroys roots to get at the worms, insects, and larvæ within." The American mole, though a different species, has probably the same propensities.

In a late number of THE FRIEND, edited by Robert Smith, a correspondent says, "A shrew mole [mouse] lived for many weeks in my study"—and "fed upon earth-worms with all the greediness of a pig—nothing could exceed the eager haste with which he seized and munched *earth-worms*."

The skunk, who finds no friend amongst us, also feeds upon the *earth-worm*. Many undomesticated birds lend us their assistance; but we exclude poultry from our gardens.

I am satisfied, however, that poultry, under proper restrictions, would render essential service; and I am preparing to make the experiment on the opening of spring. The duck may be preferable to the hen.

A few more particulars may be added. In droughts, the earth-worm retires from the service to considerable depths; and sometimes is found dead in summer, probably from heat and want of moisture. After rains, early in autumn it again approaches the surface.—At the depth of a foot or less, the young earth-worm is found *packed* like a ball, and appears, until late in autumn, unable to extricate itself from the hard earth.—A sandy soil is less favourable to their operations, than our strong calcareous loam; but neither the application of sand nor ashes place them under much restraint.—As soon as they leave the surface, on the commencement of warm dry weather, I find it necessary to dig over all the borders, so that the *poached* lumps may be broken, and that their holes may be filled.

In an extract from the GARDENER'S MAGAZINE, (N. Y. Farmer, Vol. 2, No. 9,) lime water is recommend-

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*I have seen the shrew-mouse in the mountainous parts of Pennsylvania, and a correspondent has seen it at Lockport, Niagara county.

ed for the destruction of *slugs*. One peck of lime makes 40 gallons, and 4 gallons water a bed of 4 ft. by 30 ft. The writer (W. P. Vaughan) says, "*all worms* that are out share the same fate.—The remedy is perfectly harmless to vegetation." May not the earth-worm be destroyed by this process? D. T.

[For the N. Y. Farmer.]

ART. XXVII.—WILSON'S ORNITHOLOGY. *Collins & Co, New-York—Harrison Hall, Philadelphia.*

To an intimate friend, I spoke of my intention to buy a copy of this work. "*Why will you lay out so much money on a book?*" Because I intend it as a part of the education of my children. We are eight in family—the price is forty dollars—that is five dollars a piece to give them a new interest in every bird that visits our fields or woods; and to render every walk in the verdant season a new source of pleasurable sensations. "*Only forty dollars!* Oh! I should like a copy at that price myself.*"

Well—the work was procured, and found to consist of 3 Vols. 8 vo,. containing about 1260 pages of *letter-press*, besides tables of contents and index, with 1 volume (quarto) of plates. These appear to be the original plates engraved under Wilson's own inspection, 76 in number, and comprising 320 figures of birds, drawn from nature by Wilson, and elegantly colored.

The late Governor CLINTON wrote a review of this work, from which I copy a few remarks:—

"Our author has with unparallelled industry, and singular sagacity of observation, availed himself of all the sources of information; every state in the Union has witnessed his labours: on our alpine hills; in our distant forests; on the borders of our rivers and lakes; on the shores of the Atlantic, the footsteps of his enterprising industry may be seen. He first examined the feathered creation with his own eyes; he traced them in their most secluded haunts; he watched their migrations; he observed their seasons of song, and of love, and of incubation; he noticed their food, their instinct, and their habits.

"Thus furnished with information, he has produced a work which excels all that precede it, whether we have reference to the style and matter, or the drawings. The delineations of Wilson are done in such a masterly style, that the bird is at once recognised.—He also excels in his account of the manners of birds; although he cannot boast of the splendid eloquence of Buffon, yet there is such a fascination in his style, such simplicity in his manner, and so much truth and nature in all his remarks, that we are compelled to give him the preference."

Among so many birds, so finely described, I have been rather undecided what to choose for this number; and accident more than judgement has determined the choice in favour of the brown thrush.

"This, says Wilson, is the Brown Thrush, or Thrasher of the middle and eastern states; and the French Mocking Bird of Maryland, Virginia, and the Carolinas. It is the largest of all our thrushes, and is a well known and distinguished songster.—About the middle of April, or generally about the time the cherry trees begin to blossom, he arrives in Pennsylvania; and from the tops of our hedge-rows, sassafras, apple or cherry trees, he salutes the opening morning with his charming song, which is loud, emphatical, and full of variety. At that serene hour you may plainly distinguish his voice half a mile off.—These notes are not imitative, but seem solely his own.

"Like all birds that build near the ground, he shows great anxiety for the safety of his nest and young, and often attacks the black-snake in their defence, generally too with succes; his strength being greater, and his bill stronger and more poweful than any of his tribe within the United States. *His food consists of worms*, which he scratches from the ground, *caterpillars*, and many kind of berries. *Beetles*, and *the whole race of coleopterous insects*, are sure to suffer.—He is accused by some people of scratching up the hills of Indian corn in planting time; this may be partly true, but *for every grain of maize he pilfers, I am persuaded he destroys five hundred insects*; particularly *a large dirty coloured grub*, with a black head, which *is more pernicious to the corn and other grain and vegetables, than nine-tenths of the whole feathered race.*

"Concerning the sagacity and reasoning faculty of this bird, my venerable friend, Mr. Barton, writes me as follows:—I remember to have reared one of these birds from the nest; which when full grown, became very tame and docile. I frequently let him out of his cage to give him a taste of liberty; after fluttering and dusting himself in dry sand and earth, and bathing, washing and dressing himself, *he would proceed to hunt insects*, such as *beetles*, *crickets*, and other shelly tribes; but *being very fond of wasps*, after catching them and knocking them about to break their wings, he would lay them down, then examine if they had a sting, and with his bill squeze the abdomen to clear it of the reservoir of poison before he would swallow his prey. When in his cage, being very fond of dry crusts of bread, if upon trial the corners of the crumbs were too hard and sharp for his throat, he would throw them up, carry and put them in his water-dish to soften; then take them out and swallow them. Many other remarkable circumstances might be mentioned that would fully demonstrate faculties of *mind*.

"It is certainly a circumstance highly honourable to the character of birds, that those who have paid the most minute attention to their manners, are uniformly their advocates and admirers. He must, said a gentleman to me the other day, when speaking of another person:—He must be a good man, for those who have long known him and are most intimate with him; respect him greatly, and always speak well of him."

(To be continued.)

* One third of the first subscription price.

[For the N. Y. Farmer.]

ART. XXVIII.—*Cultivation of Foreign Vines at the Loubat Vineyard on Long Island.*

MR. SKINNER.—I saw in your American Farmer, of the 5th of July last,* a letter on the culture of the Grape Vine, which I thought so very erroneous, that I should not have thought of answering it, had I not been requested to do it by my friends engaged in that culture.

Your Alabama correspondent tries to prove, that

* See N. Y. Farmer, Vol. 2. page 133.

the European grape vines cannot succeed in America, and to establish the superiority of wild grapes over *those* cultivated for centuries. But very happily for him, he adds, that he will have near his vineyard of native grapes, *a Sugar Plantation.* In this only, he shows his judgment, for it is well known, that the juice of the native grape is too tartish to make wine, without the addition of one third sugar, and one third brandy. This is so very certain, that your neighbour, Mr. Adlum, (who has a large vineyard of native vines) has insisted in his book for making wine, a receipt, in which he specifies both the quantities of sugar and Brandy necessary to make wine, with the juice he forces his hard pulped native grapes to yield.

But *here*, Sir, in this latitude, as we have not the same advantage of making sugar, as your correspondent of Alabama; and as we want grapes, which have in themselves a sufficient portion of sacharine matter to ferment, without the aid of sugar, and strength enough without the aid of brandy.

We, for that reason, plant the European vines, which have no hard pulp, and which, notwithstanding the maledictions poured on them by your Alabama correspondent, succeed here beyond our expectations.

Although he says, to have seen my vineyard the first year it was planted, and found the vines were small and unhealthy. I express myself with moderation, when I say, that his statement is incorrect, for it is a fact, that all persons who saw my vineyard at that very time, have expressed their surprise, to see vines brought from Europe in December, 1827, and planted here in 1828, had grown that same year, from 7 to 9 feet long.

If your correspondent calls that a small growth, he must be very little acquainted with the plant he speaks of, and if his allegation was true, it would yet prove nothing to the purpose; for every one who has a knowledge of vines knows, that the more a vine is luxuriant, the less good wine it produces.

For instance, the Bourdeaux vine, which appears to be the kind which has more particularly vexed him, grows very seldom more than from 3 to 4 feet long, and notwithstanding, it produces a wine, worth from three to four hundred dollars the cask.

Your correspondent says, that he has been so very angry against his Bordeaux vines, that in an excess of rage, he pulled them all up by the roots, and threw on them the maledictions, which were of old bestowed on *the unprofitable Fig-tree*, but perhaps he does not know, that the *Fig-tree* he alludes to, was an old sinner, and his vines being yet probably very young, (for he says he has only devoted a short time his attention to agricultural pursuits), and they were sacrificed without judgment, as the *Innocents were formerly by Herod*, for no doubt, had he had more practice, and given to those poor Bourdeaux vines more time and his care and attention; they would have paid him well for his trouble.

For my part, although a Frenchman, I am not of so irrascible a temper, and far from destroying my young vines, I give them all possible care, and I do not depend as he does on a *vigneron*, but like a good father, I take the trouble of raising them myself. I have now forty acres, containing a stock of 63,000 vines from different parts of Europe, which last year gave me grapes in full perfection, and this year, I expect to be repaid in some measure for my trouble and expenses.

If I have not complied with the wishes of my friends in answering you sooner, it is, that I was waiting to have grapes in full perfection, and now, that two severe winters have passed over my unprotected vines, without injuring them, and that, I am surer than ever of their success; if your correspondent wishes, as he says he does, to see a vineyard of foreign grapes, and he will promise to refrain from his bad habits of giving his maledictions to vegetables and living beings, I will allow him to taste of grapes, the sweetness of which will contrast strongly with his sour Schuylkill Muscadell or other Native grapes.

Loubat Vineyard, 18th. Feb. 1830.

A. Loubat.

Remarks *by the Editor.*—We visted Mr. Loubat's vineyard on the 27th of this month. Mr. Loubat has about 150,000 vines of various kinds in the ground. Most of those that have been set out two years had just been pruned. Judging from the size and length of last year's growth, and from their present healthy state, we should say that the Loubat vineyard was in a very thrifty and fine conditon. Except those that had been set out from cuttings last year, they have all been exposed without covering of any kind, to the frost of winter. We shall visit this vineyard often during the present season, and watch the progress of the vines and fruit.

Art. XXIX.—*Extract from the Agricultural Society of Baton Rouge, in reference to the effects of a reduction of the existing duties on Foreign Sugars, on the Sugar Plantations of Louisiana.*

Since the report of the 26th September made with reference to the Circular of Mr. Gurley, by our Committee, three hard frosts producing ice, and happening before the usual season of cold in this country, viz. on Monday 26th October, and Tuesday the 10th, and Wednesday the 11th of November, and followed by a series of warm weather, raising the Mercury to 70 degrees of Fahrenheit, have done immense damage to the sugar cane; the injury commencing at the top, and descending gradually to the other parts, so as to require the cane to be cut every day lower and lower, and at present occasioning a pure loss of the half of every stalk. The Agricultural Society of Baton Rouge, think it their duty to add to their report of the 26th September, these new and important facts, which corroborate the opinion they had before entertained, that the abolition or reductiou of three cents a pound on foreign brown sugars imported into the United States, would be a frightful calamity to Louisiana; and the Society has resolved to render the expression of their opinion public, by causing it to be inserted in the Baton Rouge Gazette, with the signature of their President and Secretary, in order that facts so positive and important may be universally known.

Baton Rouge, Sept. 26, 1829

At a meeting of the Agricultural Society of Baton Rouge, held the 26th September, 1829, the following report was submitted by Messrs. F. Duplantier, Bessy and Debellievre:

Gentlemen,—In compliance with your instructions at your meeting of the 5th of the present month, to prepare a statement in answer to the questions propo sed by the Hon. H. H. Gurly, relative to sugar es-

tablishments in Louisiana, we submit the following:—

Query 1*st.* What will the capital of a well regulated sugar estate average to each hand employed in its cultivation?

Answer. $297, 50, 100 gross product.

Query 2*nd.* What is the annual expense of a sugar estate per hand, including overseer's wages, horses, mules, work oxen, fuel, physicians' bills, and all other charges?

Answer. $105 per hand.

Query 3*d.* What interest will a well managed sugar plantation give per annum on its capital, taking one year with another for five years, after deducting the expenses and charges on the same?

Answer. 10 3-7 per cent. per annum.

Query 4*th.* How many acres of land is required for each hand employed in cultivating the cane, and what proportion of wood-land?

Answer. Two crops of cane are generally made in succession on the same land, namely, one of plant cane, and one of ratoon, after which it lies fallow, or is planted in indian corn or peas. A sufficient quantity of cane to plant two hundred acres is preserved yearly.

Query 5*th.* How many acres of cane will one man tend and harvest?

Answer. One man will tend 5 acres as before stated in answer 4th, besides cutting his proportion of wood for fuel, and ploughing 2½ acres of fallow ground.

Query 6*th.* What quantity of sugar is an average product of an acre of cane, and how many gallons of molasses?

Answer. 1000 lbs. of sugar, and 25 gallons of molasses.

Query 7*th.* What is the general price of sugar and molasses when sold by the crop?

Answer. Sugar at 5½ cents per lb. and molasses at 18 cents the gallon.

Query 8*th.* What per cent. is considered equivalent to the risk of capital in slave property?

Answer. 2½ per cent.

Query 9*th.* What effect would the repeal of the duty of 3 per cent. on foreign sugar have upon the production of the article in Louisiana?

Answer. The rapid and inevitable ruin of those engaged in the cultivation of cane would be the consequence. A sugar plantation of 1200 acres, cultivated by 80 hands, estimated together with the purchase of land, negroes, cattle, horses, implements of husbandry, brick buildings, mill boilers, &c. (the establishment of a smaller plantation being proportionably more expensive) we estimate at $147,200

But it must be remarked that of the 1200 acres of land, 400 being in wood land, and 400 in fallow, there remain only 400 acres actually cultivated in cane, yielding 1000 lbs. of sugar per acre, as already stated, making in the whole 400,000 lbs. which at 5½ cents would give 22,000

The molasses as stated at 25 gallons the acre, would amount to 10, 00 gallons, which at 18 cents, would give 1,800

Gross product, $23,800

Deduct for food, clothing, medical attendance and medicines for negroes, food for cattle and horses, overseer and sugar maker's wages, taxes, deaths, wear and tear, 8,330

Nett product, $15,470

Or 10 3-7 per cent. interest on a capitl of $147,200 as calculated for a sugar plantation of 1200 acres and 80 hands. Now, if Congress should repeal the duty of 3 per cent. per lb. on the importation of foreign sugars, it is evident that the price of that of Louisiana, now 5½ cents per lb. would fall to three cents and perhaps lower, and to 10 cents for molasses, hence the 400,000 lbs., at three cents, would only amount to $12,000

And the 10,000 gallons of molasses at ten cents, to 1,000

Gross product, $13,000

From which deducting the expenses, which would still be the same, namely, 8,330

Would have $4,670

as the small income from a capital of $147,000, which would now produce an interest of 3 per cent. per annum, instead of 10 3-7 per cent. as before stated. In such a country as Louisiana, where the rate of discount of the Banks with endorsements or mortgage including charges, amounts to 9 per cent., and out of bank is still higher; and where the greater part of the capital employed in establishing the new sugar plantations, has been borrowed, what but certain ruin would be the fate of the unfortunate proprietors, condemned to pay 10 or 12 per cent. interest, and after all his labor and time make only 3 per cent. Such, however, is the destiny which awaits the sugar planter of Louisiana if the duty of 3 per cent. per pound, were repealed, or any part of it, as the least diminution would be a premium to the foreigner, who, notwithstanding the duty, imports two-fifths of the sugar consumed.

Query 10*th.* Please state the amount of capital employed in the manufacture of sugar at this time and its annual increase in the State for the last five years.

Answer. About 45 millions of dollars, of which 31 millions for the old sugar establishments, and 14 millions for the 214 newly erected works, which will be in operation this present year, 1829. It is supposed the capital employed in sugar works, did not exceed 20 millions five years ago, but has gradually increased to 45 millions of dollars.

Query 11*th.* Will not the sugar of Louisiana answer for refining as well as West India sugar? If there be a difference in this respect, state in what particular.

Answer. Louisiana sugar, by refining, yields only from 30 to 35 per cent., whilst the West India Sugar yields from 45 to 50 per cent.

To our answer to your eleven queries, we will annex a few explanatory observations.

As there are in this state, plantations of more than three thousand acres, and tilled by more than two hundred negroes, and on the other hand, many farms of 20 negroes only, we have taken as a medium an establishment consisting of twelve hundred acres, cultivated by eighty hands. It is probable that, at the termination of the year 1828, our more expensive plantations to the number of four hundred and eighty, bore an average of six hundred acres; each farm yielding annually, two hundred hogsheads. But it appears evident

that the expense of clearing, improving the lands, &c. comparatively greater for the establishments, would leave but a trifling profit for those planters who make less than two hundred hogsheads. Hence we have chosen, as a just medium, a farm of 1200 acres, by no means disproportional to our agricultural situation.

A sugar plantation, of twelve hundred acres, to be well worked, would require a force of eighty hands. In the prices we have fixed on land and negroes, on the expenses necessary for building, the purchase of cattle, &c. we have by no means exaggerated. Within the distance of fifteen leagues from New Orleans, lands adapted to the cultivation of sugar, could not be purchased at fifty dollars the acre, and young, vigorous Creole negroes, or such as are acclimated, or understand some trade necessary for a sugar farm, such as carpenters, coopers, brick-makers, blacksmiths, masons, &c. are valued at more than six hundred dollars.

In the annual expense of establishing a sugar plantation, a number of little articles have been passed over, all of which, together, are by no means inconsiderable: viz. the charge of keeping the land and roads in repair, the purchase of materials for fencing, the expense incurred by the elopement of slaves, the purchase or construction of hogsheads, casks, &c.

Thus we find, that summing up all contingent expenses, a sugar plantation of 1200 acres, would require a capital of 150,000 dollars; to wit: 50,000 for the purchase of negroes, and 50,000 for improvements, cattle, and implements of husbandry.

If in the neighborhood of New Orleans, there are plantations that yield more than one hogshead per acre, we should consider the fact, that the more we are removed from this latitude, the less productive is the cane. We are, therefore, of opinion that our estimate of one hogshead per acre, or of 400 hogsheads from 400 acres, is rather above than below the true estimate; and that it must be understood to apply in cases when no accidents occur, such as early frosts, heavy winds, &c. Finally, if in the last year there are even a few instances of plentiful crops, in which each negro is represented as having made more than $192 50, they are happy, and extraordinary exceptions to the general rule, in opposition to which, a number of planters could be cited, who have not made $150 per hand, although the quantity of sugar made in 1828, has rendered it a memorable epoch for Louisiana

The truth is, that the diminished and diminishing price of cotton, not repaying the planter's toil, and the belief that the duty on the importation of foreign sugar would be permanent, have induced many to incur heavy engagements, in proportion to their means, which they could not meet, if, instead of a return of ten per cent., they derive an income of only three per cent.

We cannot conceal from ourselves, nor from you, Sir, this truth, that the repeal of duty on foreign sugar would be most disastrous to Louisiana, since the immense capital employed in 700 sugar farms, and estimated at forty-five millions of dollars, would sustain an immediate decrease of fifty per cent., that we should hear of nothing but failures and forced sales, that in a climate like ours in which to a humid atmosphere is joined an intense heat, interrupted by untoward and alternate series of continued rains, after long droughts; where, on account of the humidity, we can cultivate with success neither wheat, barley, oats, hemp, flax, the vine, nor the olive;—where we have been compelled to abandon the cultivation of indigo, on account of the ravages of insects, and where, at last, even cotton must be forsaken, when (as has already been nearly the case) it will be found to be insufficient for the support of the laborer, and yet, Sir, might Louisiana still prosper, were she not deprived of the sole hope afforded her by the cultivation of sugar, but without that resource, in this said Louisiana, the lands uncultivated would become of little value and soon covered by the magnolia, a tree unfit for any useful purpose, and even rejected as fuel, by the masters of steamboats, (who find its flame neither sufficiently strong nor lasting,) and our soil, now so rich and fertile, would become a vast forest of useless trees.

It may be asked how the West Indies, after paying the duty, can still profit from the exportation of sugar, and that *we* cannot?—The answer is simple. Placed in the most favorable of climates, their crops, throughout the year, are uninterrupted, whereas we have but two months for the rolling of ours. Besides this, other causes operate in their favor. It is, by no means, our intention to enter into political subjects, examine the right of importation, nor inquire whether in a country like ours, where the only revenue is derived from the customs, we can dispense with them, with advantage to ourselves, or even without danger to the Union. We are sufficiently aware of the salutary effects of the tariff, since it rewards the industry of one of our States, and has been so framed, with respect to the importation of foreign sugar, as to be of advantage to our finances, and at the same time that it admits that quantity, which Louisiana fails in supplying, would, were we to repeal it, tend greatly to injure our domestic manufactures. Our sole design has been to prove, that by annuling or even diminishing the duties on foreign sugar, the inhabitants of Louisiana would sustain an irretrievable injury.

ART. XXX.—*The application of Plaster of Paris, a preventive of the Bleeding of the Vine.*

The small work, Essay on the Cultivation of the Vine, with which I have been occupied for some time, is delayed in its publication for answers to inquiries made in Europe about some particular facts. I have thought that the public ought to be acquainted with the use of Plaster of Paris on the vine. I had besides promised many gentlemen who had honoured me with their confidence, if I was not prepared for the publication of this work at a sufficiently early period, to publish it in the American Farmer, New England Farmer, and New York Farmer.

This arises from the aqueous sap coming out drop by drop from the section made in pruning the vine.—When the bleeding of the vine takes place on a bud, it is generally spoiled. It is to prevent this, that the cut should be made in an upward direction, begining by the part opposite to the bud, as may be seen in the printed directions for vines, which accompany vines sent from my establishment, and which will be also figured in the Essay on the Cultivation of the Vine.

In all the Publications and Treatises on the cultivation of the vine in France, and in other countries, there is no mention made of any remedy or preventive against the bleeding of the vines at pruning in the spring. It is from this cause, very often, that cultivators are obliged to prune in the fall, which is very much

against the true method of the cultivation of the vine. Every cultivator must have observed how many times after the pruning in the fall, very fine fruit buds uniting both ripening wood and strength are destroyed in the spring by the frost; the wood being more apt to be frozen after pruning, than it would have been if the pruning were performed after the heavy frosts are over. (The covering of the vine will not always save those buds.) It is only in very mild countries, that the vine is pruned in the fall; and this is only done on the red or black grape. These being generally more hardy, support pruning better than the white grape. Having been much occupied in endeavouring to prevent this loss of sap, I tried first sawing the branches of the vine. This really obviates the bleeding, because by the operation of sawing, the vessels of the sap become obstructed. The contrary happens when the pruning is done by a sharp knife; as it is almost always done for the sake of greater neatness in the work. I was not satisfied with this manner of operation, and I owe the following discovery by analogy, from having remembered, that to prevent the bleeding of the sap of Cucumbers after triming, my old gardener in Europe used powdered plaster. I followed this idea, and the result was completely successful. In pruning the vine in March, (a little sooner in more favourable parts), I rub a little of the powdered plaster of Paris, (it is probable that Nova Scotia plaster would answer the same purpose, but I have not tried it), on the part of the vine which is cut, and this entirely obstructs the vessels, because there is a very little moisture when the cut is made, and when the sap begins to flow, it finds the sap vessels so well stopped up, that none of the fluid makes its appearance on the surface of the section.—If the pruning (which I have tried) was done even at the begining of May, the immediate and sufficient application of powdered plaster, would stop the bleeding of the grape. A. PARMENTIER.

Hor. Botanic Garden,
Feb. 1830.

ART. XXXI.—*Annual Report of the Inspecting Committee of the New-York Horticultural Society, for* 1829.

The Inspecting Committee respectfully report the names of the following members of the Society, as being entitled to the premiums for the several articles specified as subjects of competition, for the past season:—

FOR VEGETABLES.

Thomas Coady,	for best cucumbers,	5th May.
Do.	early Lima Beans,	28th July.
John Curr,	earliest Cabbage, 4 heads,	26th May.
J. Matthewson,	Lettuce,	June 23d.
Wm. Curr,	Cauliflower,	" 26th.
Alexr. Smith,	Knights marrow peas,	" 30th.
Do.	Sea Kale,	May 5th.
George Still,	Broccoli,	Nov. 10th.
Do.	Savoy Cabbage,	Oct. 27th.

FRUIT.

Charles Oakley,	best Peaches.
Do.	Plums.
Do.	Gooseberries.
Alexander Smith,	Pears.
Do.	Grapes.
E. H. Warner,	Nectarines.
Do.	Apricots.
Wm. Wilson,	Musk Melons.
Thos. Coady,	Strawberries.

FLOWERS.

Wm. Wilson,	best Polyanthus.
Wm. Neale,	Auriculas.
Wm. Prince,	Carnations.
Wm. R. Cooke,	Hyacinths.
Wm. Neale,	Pinks.
Do.	Tulips.

The Committee recommend also, the following members who have exhibited articles not enumerated in the prize list, but which are worthy of distinction, for their great merit, as proper subjects for the discretionary premiums:

Michael Floy, for three new varieties of *Camellia Japonica*, seedlings raised by him, and distinguished as Nos. 6, 7 and 8, a description of which will be laid before the Society; and also, for a number of new and rare plants, introduced by him, among which, were Calceolaria corymbosa, Primula cortusoides, Daphne gnidium.

William Prince, for many rare and beautiful plants, the most conspicuous of which were Arundo donax, Rosa multiflora var. alba, Clematis alpina, Lonicera sinensis, Iris hœmatophylla, Delphinium requienu, Campanula rapunculoides.

Thomas Hogg, for a fine collection of Iris, seven species of which were exhibited, and a variety of rare plants, among which were Pelargonium macranthum, Cyrtanthus obliquus, Calaolaria rugosa, salicifolia.

Andrew Parmentier, for his splendid collection of China roses, and also, for beautiful specimens of Greville rose with various tints, Double tropœolum, Cytisus hirsutus, Crinum uniflorum, Silene viridiflora, Salix annularis, hybrid.

Levi Kidder, for the best seedling Carnations exhibited.

Wm. Wilson, for new seedling Heaths, very splendid, and for several rare and valuable roses.

The Committee further report, that the past season, with the exception of excessive rains in the early part of it, having been highly favorable to all sorts of garden products, the weekly exhibitions have been rendered interesting from the quantity, and excellence of the various subjects presented for examination.

In the department of Floriculture especially, the displays have far exceeded those of any former season. Many rare and splendid additions have been made to the catalogue of our cultivated flora. As a proof of this, the Committee refer to the lists exhibited by Messrs. Prince, Floy, Hogg, and Wilson; to the Beautiful Bengal roses, which Mr. Smith has succeeded in bringing to perfection in the open ground; to the beautiful specimens of Chinese roses of Mr. Parmentier; the fine double blue Hepatica of Mr. Neale.

From the specimens of fine fruit which they have inspected, the Committee are gratified in being able to assure the Society of the continuance of a lively emulation among our members to improve in this important branch of Horticulture. Varieties of the sorts usually cultivated in this vicinity, have been profusely displayed, and those, in general of the most superior qualities. Among those which might be enumerated as deserving particular notice, were the very large and superior gooseberries presented by Mrs. Winter, of

Flushing. Remarkably fine magnum bonum plums, presented by Captain Curtes Holmes. Grapes of various kinds sent to the exhibition by Mrs. Hosack, Mrs. Mc Briar, Mrs. Corrie, Mrs. Shatzell, and Mrs. Gen. Boyd, and also, from Messrs. Saltus, James Taylor, Alex. Masterton, and O. Corvin, from Mr. Ogilvie, and from Col. Gibbs, of Long Island, and John R. Peters. Excellent samples of golden nectarines, from Mr. Jno. Turner, and lemon clingstones, from Mr. Berkley, (from a tree now in its 20th year,) and autumn Bergamot Pears, from Mr. Timothy Whittemore, and water melons of remarkable size and quality, from Dr. Hosack, raised at Hyde Park. The thanks of the Society are also due to Mr. Samuel Downer, of Dorchester, for several sorts of Pears which were uncommonly fine specimens of that fruit.

The Committee would also offer to the notice of the Society, the samples of native grape, cultivated by Professor Gimbrede, at West Point. The efforts of that gentleman to improve the quality of several species of our indigenous grapes, are worthy of approbation, and promise great success from the luxuriant specimens with which he has at times favored the Society.

Samples of wine produced from the native grape were sent for the inspection of your Committee, by Mr. P. S. V. Heanut, of Erie, Pen., of which a very favorable opinion was entertained, and samples from the same gentleman, also, of some excellent Currant Wine manufactured by him.

In the course of the season the Committee have been called upon to examine several new articles which they have great pleasure in reporting to the Society. A seedling nectarine of the free stone kind, and of highly excellent sort, was produced by Mr. John P. Roome, of this city, raised by himself. A Plum, also, of remarkably fine qualities, was presented by Mr. Floy, a seedling, raised by Mr. Henry Brevoort, and called the Purple Bolmer Plum. A seedling apple, also, of very delicate taste, raised by Mr. A. Smith, was considered as worthy of distinction. Seedling peaches of superior kinds, were exhibited by Messrs. Mc Brair, and Probyn.

It will be perceived, that premiums are not recommended for all the articles specified in the Society's list. Of this kind are the articles of Celery, Lettuce, and others, which were limited to a certain date, and owing to the lateness of the season, and not being presented in time, premiums were accordingly withheld. The Committee recommend to the favorable notice of the Society, the fine samples of early peas, sent by Dr. Hosack from Hyde Park, also, by Mr. Lane and Mr. Smith, on the 2d June. Early potatoes, by Mr. Lane, one dozen of which weighed 2 lb. 8½ oz. Fine celery, by Mr. Still, and Mr. Kinnersley, a sample of the latter was blanched 22 inches. Early carrots, presented 16th June, by Mr. Matthewson, weighing 8½ oz. without tops. Early long Beets, by Mr. Coady, 16th June, 6 of which weighing 1 lb. 4½ ounces. Turnip Beets, 23d June, 6 of which weighing 3¼ lbs., presented by Mr. George Still. Long do., by Mr. W. Curr, 23d June, 6 of which weighing 2¾ lbs.

The Committee have selected the above as being the most prominent which have passed under their examination. From these, and others, which, if it were necessary, might be noticed, the society will be able to infer the progress which has been made since the last report of the Committee in improvement, and the advances which have been made in the objects for which our Society was instituted. All of which is respectfully submitted.

Charles Oakley,	John I. Palmer,
Abraham Halsey,	Francis Cooper,
William Wilson,	James Mc Brair,
Michael Floy,	Wm. Neale,

By order of the Society,

Wm. R Cooke, Sec'y.

New-York, Dec. 22, 1829.

[For the N. York Farmer.]

ART. XXXII.—*The Application of Plaster of Paris to Bleeding Vines injurious, and impracticable on a large scale.* By A. Loubat.

SIR,—The New-York American of this day contains an article on the *Bleeding of the Vine*, by Mr. Parmentier. I beg leave to observe, that, although that gentleman deserves a great deal of praise for the efforts he has made for promoting the horticultural and agricultural advantages of this country, I must be permitted to differ from him on the subject relating to the application of *plaster of Paris, or any other substance*, to prevent the bleeding of the Vine; for I am convinced it is necessary that bleeding should take place. If you do not find, in any book, treating of the culture of the vine, any mention or hint respecting the stoppage of the bleeding of Vines, that is because the application of any such remedies would be injurious, instead of producing any advantage whatever to the Vine. As a proof of my assertion, I will observe, that although the pruning of the Vine is only performed to divide the sap into but a few buds, and to make the Vine produce bunches more perfect, and of a quicker ripeness; yet should those buds receive too much sap, the blossom will be blasted; the proof of this is fully established by considering, that, whenever a vine is of too luxuriant a growth, and is pruned short, although the buds may produce a beautiful branch, it will produce no Grapes; it is on this account that such Vines must be pruned very long, and not before the buds begin to swell, then it bleeds amazingly, and loses that superfluous sap, which is nothing more than a watery substance, beneficial for the growth of the branches, but hurtful to the grapes.

When vines are of small growth, they must be pruned *early*, and if a too luxuriant one, *late*, for the later they are pruned, the more they bleed, but in all cases let your Vines bleed, because the too great abundance of sap in this warm and humid country, and its direction in a greater number of buds than in France, are what an American Vine-dresser must more particularly observe. In all cases where vines are exposed to late frost, prune, but very late, for the sooner a vine is pruned, the sooner it will grow.

After all, the application of Plaster of Paris to every branch, is not only hurtful to the vine, but could not be applied to any large vineyard; for instance, on mine, where there are 65,000 vine-stocks, which when 6 years old, will have each 20 branches to cut, and therefore would require the application of 1, 300,000 pinches of plaster.

Whenever a person writes on the culture of a plant on a large scale, and in open air, his method must be expeditious, leaving the costly ones for hot houses,

where nature is compelled to produce, in spite of climate. Your ob't servant,

ALPHONSE LOUBAT.

Loubat Vineyard,
February 26, 1830.

ART. XXXIII.—*Notice of the Annals of Cuba, a publication dedicated to the Horticultural Society of New-York.* [To the Editor of the New-York Farmer.]

SIR,—The Botanical garden near Havanah, is patronized by the King of Spain, the Patriotic Society of Cuba, and the Bishop of the Island. Your readers already know, that the intendant of this excellent establishment is D. Ramon de la Sagra, who is professor of agricultural botany, mineralogy, and geology. He commenced in 1827, memoirs intended to promote the Horticulture of Cuba.

In consideration of his respectable character and useful labours, the Horticultural Society of New-York elected him an honorary member; in return for which, he has inscribed to that body the first numbers of these pages, as a manifestation of his veneration and gratitude. It is written in Spanish, and he assures the members, since they have made him an associate, how happy he feels, on being registered among them.—Ever since his arrival there in 1823, he had meditated the plan of a physical and natural history of the island, as connected with the soil and its improvements. At the same time, it was projected to give a course of vegetable anatomy and physiology, with descriptive Botany, with particular application to agriculture and industry there, and he declares what hearty satisfacton he will experience, if he can in these ways, sustain the honourable title that has been given him.

In this his first memoir, he considers the climate of Cuba.

The first article relates to *temperature.* He makes the mean temperature of the island to be between 24 and 25 degrees of the centesimal thermometer, which to 75—77 of Fahrenheit's scale, and to 19—20 of Reaumur's. He gives a glowing description of the beauties of a tropical night, and observes when the quicksilver falls from 16° to 6°, as happens some days in December and January, it induces a trembling in an American and European, as disagreeable as when at Madrid, or Paris, the mercury falls below the freezing point.

The next subject on which he treats, is *moisture.*—According to the hygrometer of De Saussure, the average humidity of the air at the garden, from a series of 3640 observations, was 84° 54.

The third class of his operations, refers to *Atmospherical Pressure.* He observes, that although the Barometer presents between the tropics, phenomena worthy of observation, touching the physical history of our plants, yet he does believe there is a proportionate advantage to be derived from it for cultivators. During the wet season, the quicksilver frequently falls to 27 inches, eleven lines, and somewhat lower; and in the dry season, it is common for it to rise to 28 inches and 2 lines, to 28 inches and 4 lines, and from the observations he has made, he concludes the range in about 8 lines and one tenth.

The author concludes his dissertation with some sensible remarks, on the combined operation of heat and moisture on vegetation, on the peculiar trees and plants of the climate, on the effect produced on man by relaxing the muscular fibres, diminishing energy and activity, producing an invincible disposition to repose, inducing difficulty and irregularity in digestion, and causing hepatic and dysenteric disorders. He exhibits in strong terms, their debilitating effects on the mind, he promises practical application of his principles in the succeeding numbers.

It appears from a report, made by the superintendent to the institution in December, 1829, that this garden is in a thriving and prosperous condition, constantly receiving seeds, roots, and plants, from all available quarters for cultivation, and afterwards, to cultivators and societies. Among the plants to which particular attention has been paid during the last year, are the following: 1. Canna lisotada, from India.—2. Vanilla, South America. 3. Further experiment on Tobacco. 4. Anil or Indigo plant of Guatimala. 5. Pimento, or Eugenia, from Jamacia. 6. A species of Breuca, a native of Cuba. 7. Guaguaci, a species of Loteae, a native also, affording a purgative resin.—8. Nogal, of the Society Islands, an Aleurites of the Euphorbium. 9. Behen, a species of Moringa, valuable for the oil its seeds afford. 10. The Agaty of India, belonging to the Leguminosa. 11. Cerezas of the Antillas, a species of Malphigia. 12. Grosellas, a species of Cicca, from Cochin-China. 13. Bread Fruit tree, an Artæarphus. 14. Akeesia, a species of Blighia, from Africa. 15. The Gum Elastic tree, from South America, a species of Castalia. 16. A new species of Maranta, from the interior of the island, affording good food.

There are many more, but the writer did not find it convenient to enumerate them.

February 15th. 1830.

ART. XXXIV.—NATURAL HISTORY.—*Class V. Insects.* By the EDITOR. [Continued from page 7.]

This class of animated nature includes many friends and foes of the human race: but unfortunately for man it is not sufficiently known to enable him to distinguish them, but in a comparatively few instances. To the farmer and gardener a knowledge of entomology is very appropriate, and of much practical utility. By observation and a little care in preserving specimens, a scientific acquaintance with this branch of natural history may be greatly extended.

Although this class of animals is less perfect in their internal structure than the vertebral divisions, yet they are greatly distinguished for their instinctive intelligence, and occupy the first rank among the invertebral classes.

Instead of a heart, insects have a vessel extending along the whole length of the back, filled with a transparent viscous fluid, and undergoing irregular contractions supposed to be analagous to those of the heart. The bodies of insects have a great number of tubes or tracheæ penetrating them on all sides. These tubes convey the air into every part of the body. Two knotted cords running the length of their bodies appear to perform the functions of a brain and nervous system. Insects have the senses of seeing, tasting, smelling and feeling. It has not been ascertained for certainty, that they have the organs of hearing. The external covering is of a horny and shell like, and of a tough muscular substance.

The attennæ or feelers are supposed to be delicate organs of touch. Those insects which feed on vegetable and animal juices have mouths like a tube or sucker; others are armed with a lancet, by which they are enabled to pierce the skin of animals; some have a beak and others a proboscis, which, as in butterflies, can be rolled into a spiral form. Those which feed on more solid substances are furnished with jaws to masticate their food. There are some species furnished with *palpi* resembling attennæ in structure, the use of which is to reach and hold the food to the mouth.

Their wings and legs present a very great variety, in number, length and structure. The abdomen contains the digestive and ovarious organs, and is furnished with either a perforator, a sting, a bristle, or with a sort of claws or forceps, which serve as weapons of defence, or as instruments for the deposition of their eggs. After laying their eggs, most kinds of insects undergo those changes of form and structure denominated metamorphosis. Very few of those that have no wings undergo changes. Those that have wings generally pass through several metamorphosis. From the egg of a butterfly the *caterpillar* is hatched. After continuing in this state sometime, the caterpillar casts off its skin, assumes another form, becomes motionless, and apparently without life. In this state it is called a *chrysalis*. At length, breaking its envelope, it comes forth a new creature in appearance; with wings, six long legs, two attennæ, and with different eyes.—Great and wonderful as are these changes, still they are supposed to be only the successive unfoldings of the original embryo.

Some other kinds of insects, grasshoppers for instance, pass through only a demi-metamorphosis. In the *larvæ* state, they resemble the perfect insect, with the exception of the wings, which are not perfected until the skin is first cast off.

The celebrated Linnæus divided the insect race into seven orders, founded on the presence or absence of wings, their number, texture, arrangement, and the nature of their surface; and also upon the existence or absence of a sting. Later naturalists, however, have made the orders on the anatomical structure of the insects. The Linnæan arrangement is, with some modifications, more intelligible to the general reader.

I. *Coleoptera.* The upper pair of wings are crustaceous, or horny. Beneath those is another pair more soft and flexible. The insects of this order, are very numerous, and some of them remarkable for the beauty of their colours, and for their complete metamorphosis. Beetles, and winged bugs are among the kinds belonging to this division.

II. *Hemiptera.* These have four wings, the upper of which are less hard in their texture, than those of the first order; resembling vellum, and not covering the body like those of the beetle. Grasshoppers, crickets, cock-roaches, locusts, and various kinds of bugs, are included in this order. These undergo a partial metamorphosis.

III. *Lepidoptera.* This class embraces some of the most beautiful and splendid decorations in the cabinet of the naturalist. The butterfly, sphinx, and moth, belong to this order. The larvæ, existing in the form of worms or caterpillars, spin webs for their protection in the chrysalis state.

IV. *Neuroptera.* The insects of this order also have four wings, which are membraneous, and forming with their delicate veins, a beautiful net-work. Instead of a sting, the neuroptera have a kind of forceps or pincers. The dragon-fly, the ant-lion, and termites, are of the neuroptera; also the ephemera, which exist two or three years in the larvæ and chrysalis states, but only one day in the winged or perfect state. Some of the insects of this order, undergo only a partial change.

V. *Hymenoptera.* The ant, wasp, and ichneumon-fly, are included in this order. They have four membranaceous wings, but not so delicately netted as those of the preceeding order. Most of the females are furnished with either a perforator or a sting. The insects of this order, undergo a complete metamorphosis.

VI. *Diptera.* Those of this order, have but two wings, but are furnished with a pair of balances or poisers. Armed with lancets or suckers, they are enabled to pierce the skin of animals, and draw their blood. To this order, belong the common house and horse-fly, and the various species of the gnat, and gad-fly. Their larvæ are deposited in the intestines of brute animals, putrid meat, cheese, manure, water, and mud. These pass through a metamorphosis.

VII. *Aptera.* This name denotes those without wings. In the other orders, there are some destitute of wings, but they so much resemble in their structure, the others of the order, they are classed with them. Among those of this order, are the millepedes, the body of which is composed of numerous rings, each having a pair of legs; the louse, of which there are many varieties infesting animals and plants. The flea belongs to this order, and passes through three changes. Spiders also are often arranged in this division.

(To be Continued.)

ART. XXXV.—*The Cultivation of the Mind, and a Taste for Rural Nature, favorable to Health.*

Vain are the gay amusements of the theatre, the splendid display of a luxurious table, or the violence of irregular sexual enjoyments, compared to the calm delights of intellectual pleasure; which, in a mind properly formed, and seduously cultivated, improve much by time, and gather strength with years. The great Solon declared, that he learned something useful to himself and others, every day that he lived. It was a declaration much to his honor; for no person can dispute, that to be continually advancing in the path of knowledge, is one of the most pleasing satisfactions of the human mind. I have said, that we should cultivate a love of literature and the fine arts, and endeavor to possess and to improve a correct, chaste taste. For this purpose, I am persuaded that rural and picturesque scenery is very favorable. The pleasures of rural nature are consistent with every period of our lives; and they certainly approach, the nearest of all others, to those of the purely philosophical kind.

Now, after our taste has been improved by the contemplation of the sublime and beautiful in nature, we feel a pleasure in works of art, and the embellishments of life. It is thus that the works of imagination bestow a source of pleasure and delight upon objects which, to a mind thus improved, appear as a new cre-

ation. It would seem, that our pleasures have, in a well-informed mind, an analogy with our respective periods of life: even the difference of sex forms a variety in the pleasure of particular habitudes and pursuits. Infancy and youth, manhood and old age, greatly differ; yet we do not find that youth regrets the toys of the child, or manhood laments that it has no longer the amusements of youth. An unceasing activity of mind, bearing a just relation to its powers, seems to be an evident purpose of nature, in reference to human beings; and appears to be intended by Providence, to preserve our health, and to continue our gratifications, of a mental character, to the latest period of our lives. Therefore, it is most desirable that we should encourage an enthusiasm for the fine arts, and the picturesque of nature, that it may settle into a permanent habit; for what is effected by habit, is accomplished without any effort or constraint.—*For. Pub.*

ART. XXXVI.—*Quantity and Quality of Alimentary Nourishment.*

Whatever substance is taken into the stomach, and there changed by digestion, so as to furnish materials for the supply and growth of the body, is properly *aliment.* Man, by his organization, especially evinced in his teeth, and the structure of his digestive organs, is fitted for being nourished by aliment taken both from the vegetable and animal kingdoms. He has teeth for cutting and tearing, like the animals purely carnivorous, and others for grinding, similar to the herbivorous tribe. Climate and the nature of the soil, sometimes prevent his choosing the kind and variety of food which would be most acceptable to him. At the extreme north, his subsistence is almost entirely on flesh and fish; whilst, in the equatorial regions, he will often be found to eat nothing but fruits and grain. It is in the temperate or middle latitudes, that he is allowed the greatest range in the indulgence of his appetite, as well as for the exercise of his intellect.

The use of aliment being to repair the waste which the body suffers, and to supply the organs with nutriment for their growth and the suitable discharge of their functions, it follows, that when taken in moderate quantity, and of a suitable kind, its introduction into the stomach ought not to be attended by any feeling of uneasiness or oppresion; but, on the contrary, by one of comfort, and, as it were, of well being. When, however, food is taken in too large a quantity, that is, when the first natural sensation of content and fullness is not attended to, the person thus transgressing, feels his stomach distended, his breathing laborious and difficult, disinclination to motion and thought. He is dull and drowsy, and often falls asleep. This excessive repletion often indulged in, so as to become a habit, gives the stomach and other organs concerned in digestion, an unnatural energy, and a predominance over the outer senses and the brain, or the organs of intellect and sentiment. The glutton, like a true boa constrictor, has hardly finished his repast, when he is seized by a general torpor, and an irresistible desire to sleep: he becomes fat—his features lose their distinctive outline and character, and his limbs refuse to perform their office, or do it slowly and painfully. This state of excessive fulness and corpulency, disposes its possessor to gout and other violent inflammatory diseases; and if he make any intellectual effort, or indulge in any strong emotion that shall excite his brain, little accustomed to be exercised, he is in danger of perishing from apoplexy.

It is hence obviously impossible to lay down, with precision, rules to regulate the quantity of aliment necessary to properly nourish an individual, and necessarily absurd in any man to forego the measure of his own appetite, and feeling, consequent on its proper gratification, for the practice of his companion at table, or neighbor, preaching advice. Age, sex, temperament, climate, season, exercise the nature of the occupation, and the proportion of sleep and wakefulness, are all modifying circumstances in fixing a scale for the regulation of our food, in regard to quantity not less than quality. We may venture on a few inferences from many observations on persons in health, as well as from experiments on those whose digestive system has been affected by wounds or diseases, of the nature and details of which our readers need not be here informed.

Animal food allays more completely, and for a longer period than vegetable, the sensation of hunger.

Animal food is more readily attacked by the digestive organs than vegetable: that is to say, it is longer retained, and more completely changed, and during the process of digestion it calls the other organs, such as the heart, lungs, brain and skin, into more active sympathy.

The retention of food, whether animal or vegetable, in the stomach, is proportionate to the quantity of nutritious juices it contains. The conversion of aliment by the stomach and continuous portion of the digestive canal, into a homogeneous mass, calculated to form chyle and blood, is in proportion to the wants of other parts. Thus, when a person has fasted for a length of time, and there is langour of the body generally, the food that is taken into the stomach is more completely changed, than if it had been swallowed at the usual hour of a repast, or without a decided sensation of hunger.

The more simple the aliment, and less altered by culinary processes, the slower is the change in digestion, but at the same time the less is the stimulation and wear of the powers of life. The Bramins of Hindostan, who live on exceedingly simple food, are long livers, even in a hot and exhausting climate. The peasants of Switzerland and of Scotland, nourished on bread, milk and cheese, attain a very old age, and enjoy great bodily strength.

We learn from the above, that if it be desired to give nutriment in a small bulk, to obtund completely the sensation of hunger, and restore strength to the body, a small quantity of animal will be preferable to much vegetable food.

Where, on the other hand, there is already too much excitement of the body generally, from fulness of the blood vessels, or of any one of the organs, owing to a wrong direction of the blood to it, animal food, by being long retained in the stomach, and calling into greater action other parts during digestion, as well as furnishing them with more blood afterwards, must be obviously improper. The more of this kind of food, taken under such circumstances, the greater will be the oppression; and the weakness, different from that of a healthy person long hungered, will only be increased by the increased amount of blood carried to the diseased part.—*Journal of Health.*

ART. XXXVII.—*Obituary of Mr. John Hervey, Nurseryman.*

DIED, Sept. 4., at Nurseryville, near Comber, Mr. John Hervey, nurseryman, in the 43d year of his age. Mr. Hervey has fallen a victim to hydrophobia, and the circumstances which attended this terrific malady have created a feeling of intense sorrow, amidst a very large circle of friends and acquaintances. "It is, however, in a public light that we must view the deprivation society has sustained in the loss of this worthy and intelligent man. His example and his taste as a botanist, had spread a spirit of improvement over the whole province of Ulster; and the beautiful grounds of Nurseryville were the resort of almost every scientific person who visited this part of Ireland. Nor did his active and enquiring mind rest contented with bringing to a state of the highest perfection, the more mechanical parts of those interesting pursuits, in which he had been engaged for the major part of his life; he examined, with the study and the investigation of a man of science, into the most abstruse parts of botanical pursuits. His acquaintance with this branch of knowledge was allowed to be very considerable.—He also corresponded with the first naturalists of the present time; and considered no expense too costly in storing his mind with every useful information, or enriching his gardens with the rarest and most valuable plants. His taste and skill were the boast of his country; his hospitality was proverbial, both among friends and strangers; and his melancholy death will be a great public loss, and will long leave behind it feelings of deep sorrow, in the bosom of every man who enjoyed his society or his friendship." Mr. Hervey occasionally corresponded with both our Magazines, and none of his friends more sincerely regret his loss than we do. Every accident of this sort ought to teach us to make the most of life, by employing or enjoying every moment; and to be always ready, in respect to worldly affairs, to leave it, by ordinary or extraordinary disease, at the shortest notice. "The remains of Mr. Hervey were removed from Nurseryville to the family burying ground at Annahilt. The multitude of persons who filled up the long train of the funeral pageant,—persons of the first respectability, and of different religious and political opinions,—best bespoke the universal esteem in which he was held. It was an esteem that sprung from a firm conviction of his worth; and this, like wealth honestly earned, will wear long and well." It may afford a useful lesson to our readers, to mark the steady fortitude and vigilant exercise of duty with which Mr. Hervey met his approaching end; knowing it to be an inevitable result, and knowing also that it would be attended by dreadful previous suffering. He received a scratch on the cheek, and was bit in the arm by a dog in June, and as soon as possible afterwards had a portion of the flesh of the arm cut out, and a course of medicine prescribed. It is uncertain whether or not he attended to the medical prescription with sufficient rigidity; but on the 2d of Sept. he first discovered himself labouring under the influence of hydrophobia, by experiencing a spasmodic affection, when he attempted to put some water into his mouth. "He was in Belfast on business on the 1st inst., and dined with one of his friends, without any thing remarkable being observed in his manner, except, it is now said, a restlessness and a dulness of spirits. Soon after his arrival at home, however, he found himself unwell, and continued so until morning, when he rose to take a glass of water, and found that he could not bear to look at it. From that moment he knew all was over, and that not a hope remained; notwithstanding which, such was his nerve, that he retired to bed, without alarming the family, until his aunt came to call him to breakfast, and even then he did not communicate to her the awful certainty of his approaching end; but sent into Comber for two of his particular friends, under pretext of business, to whom he communicated his fatal discovery and situation. Dr. Purdon was immediately sent for, and did his utmost to alleviate his distress; but all was in vain, no human aid could then avert the sad fate which awaited him. Although perfectly aware of his own situation, he remained firm and collected, frequently expressing his hope that the Almighty would endue him with firmness to meet his fate as a man and a Christian, and giving occasional instructions for his friend's government, after his demise, until within a few hours of his death."—*Belfast Chronicle, Sept* 7.

About a week after we had prepared the above account, we saw in the *Scotsman* an account of Mr. Hervey's case, which enters much more into detail than that in the newspaper which was sent us. A more fearful relation we never read, and we should not harrow up the feelings of our readers by the following concluding paragraph, were it not for the purpose of appending some remarks. "He struggled dreadfully, and appeared to wish to get himself out of the bed. He screamed with the most appalling agony, and called for Dr. O' Neill to cut his jugular vein. He besought his friends about him to put an end to his horrible torment, if they had the smallest spark of pity remaining in them. Some of his labourers came in, and assisted in holding him down. So intolerable was the dreadful agony of the sufferer, that he threatened to bite those who held him, if they did not kill him or let him up. Fearing that the courage of the men might fail, Mr. Miller called on them to remain firm, if they valued their existence. Hearing this, the tortured sufferer exclaimed, 'Miller, you savage, I will never forgive you.' He continued beseeching those about him, alternately, to put an end to his pain: when finding all ineffectual, he cried out, 'If ever the soul be allowed to haunt those that have done them wrong, I will return and torment you all.' He then ceased shouting, but three or four times he was heard to say, in an under tone, 'severe, terrible,' in a manner that showed he was perfectly sensible, though the agony in the height of the paroxysm was too great for even a man in his senses to bear. At 20 minutes to 4, squeezing the hand of one of his friends, and breathing his name, he expired. The self possession, the firmness, the disinterestedness, and the amiable kindness evinced by Mr. Hervey, during his unparalleled sufferings, though only indicative of his general character, are sufficient to excite our astonishment at the fortitude and magnanimity which a noble spirit can display."—*Scotsman, Oct.* 10. 1829.

On mentioning this dreadful case to Professor Thomson of the London University, he informed us that, from past experience, he had little doubt of being able to cure hydrophobia, if ever a case should again come before him. He refered us to the *Medico Chirurgical Transactions*, vol. vii. p. 299. in which is given by him a case of hydrophobia, with the appearance of the body on dissection, and remarks on the nature and treatment of the disease. On dissection.

the spine was found to be the part chiefly diseased, there being great turgidity of the blood vessels, and depositions on the coats of the spinal marrow. The following is the proposed method of cure: repeated cuppings all along the course of the spine, early administration of large (15 grs.) doses of calomel, then prussic acid; and, when the excitement is abated, powerful tonics. It is highly consolatory to think that there is even a prospect of curing this dreadful malady; and we have no doubt it, and several others considered incurable, will, with the progress of medical science, be ultimately subdued. The first step towards the curing of any disease, is to ascertain on what part of the system it operates, and if every one who dies of this malady were dissected by such men as Dr. Thomson, it could not fail to be discovered. A correspondent of the *Morning Chronicle*, speaking of Mr. Hervey's case, suggests the idea of neutralizing the canine poison by administering to the dog or man under its influence, the Wourali poison, which, he says, acts as a sedative.—*London.*

[For the N. Y. Farmer.]

ART. XXXVIII.—*Hydrophobia.—Properties of Cloride of Lime in Decomposing Animal Poisons.*

At the present moment, our fellow-citizens are considerably excited by the fear of mad dogs, by whom at least two children in this city have, within a few days been bitten. The horrible nature of the disease consequent to the bite—a disease so utterly beyond the reach of medical aid, renders it the imperious duty of every one to communicate to the public any thing he may know, tending to mitigate, or prevent the awful issue.

By the late Foreign Medical Journals we learn that M. Coster, a French surgeon of great eminence, has devoted his attention to the subject of animal poisons. He has discovered that chlorine has the wonderful power of decomposing and destroying the poison of the most deadly.

The saliva of the mad dog, has the property, when inserted under the skin, of communicating hydrophobia to other animals, and to man. M. Coster has been able by the use of chlorine, to decompose this deadly poison, and render it harmless, preventing the approach of hydrophobia to animals bitten by dogs decidedly rabid.—There can be no doubt of the accuracy of the experiment on which this statement is predicated.

From this the most important practical results follow.

Make a strong wash by dissolving two table spoonfuls of the *chloride of lime* in half a pint of water, and instantly and repeatedly bathe the part bitten. The poison will in this way be decomposed. It has proved successful when applied within six hours after the animal has been bitten.—*U. S. Telegraph.*

I wish these facts generally known, as they may be of service to our fellow-citizens at large.

In Silliman's Journal of last summer No. 34, there is a very interesting account of the properties of *chloride of lime* which every *farmer* and *gardener* ought to know, and S. Fleet would oblige many of his readers by inserting it. I procured *chloride of lime* in New-York, but have not that number of Silliman's Journal, and want directions how to prepare it for purifying cellars, &c. D. T.

ART. XXXIX.—*Remarks on Back Numbers of the N. Y. Farmer.*

N. Y. Farmer, Vol. 1, p. 151, for *Agave virginica* read *A. americana*, (great American aloe.)

The *Agave virginica* is indigenous in the Southern States, but bears the winter in the *western parts* of the State of New-York. "Scape from 4 to 6 feet high—Corolla fragrant."—ELLIOTT.

Permit me to copy a curious paragraph. "How often have I heard farmers reply to an observation on the tardy growth of turnips,—'*they will not grow apace till the leaves are large enough for the wind to take hold of them;*' and this is only because plants cannot be healthy and vigorous without exercise. Mr. Knight found that trees which were regularly shaken every day in his green-house, grew more rapidly and strong than others which were kept still.

Vol. 2, p. 124. *Double flowering apple tree.*—I have inquired in vain of several gentlemen living in, or near New York, whether the tree refered to, is *Pyrus spectabilis*, (double *Chinese* flowering)? or whether it is *some new variety of the common apple*, (P. malus)? The learned writer of that article could have told us: and to those who cultivate ornamental trees an answer will be interesting.

I can recollect large peach trees, some miles from Philadelphia, soon after the Revolutionary war; but *now* none can be shown of that size in that vicinity. At least as early as the year 1795, it was remarked that peach trees had become shorter lived, and *declined soon after they had begun to bear fruit.* ☞ At that time I had never seen this tree propagated by grafting or budding.☜ The practice of the family, was to throw the stones of the best peaches into the garden, and thence to remove the young trees when of a suitable size for transplanting.

In the spring of 1805, I planted out seedling peach trees. These have been attacked by worms at the root, and in turn the worm was attacked, but not with the regularity that a professed gardener would recommend. The trees bore well, though some were deficient in vigor, but not one has been destroyed by the worms, notwithstanding my neglect of them for some years. Early in 1829, these trees were considered supernumaries and were cut down very close to the ground to enlarge a meadow. *The greater number have sprouted vigorously from the roots.*

In 1823 I procured a box of peach trees from the neighbourhood of New York. I observed *some* of these to be of feeble growth; and fearful of loosing kinds so rare and so high priced, I budded some into *a most thrifty stock* in the nursery, and some into *thrifty trees* in my peach orchard. On the young stock two buds *took*, but never sprouted, and in less than a year *it dwindled like the tree whence the buds were taken, and died. Every tree in my peach orchard so buded has been long since dead*, and no other peach trees have died in that orchard.

The diseased trees from New York scarcely survived a year, and till that time, I had never seen any tree so affected in this western part of the State.

Vol. I. p. 144. Among the visions of Philosophy in the last age, none have been more pleasing than the notion that with the destruction of our forests, the rigour of winter will abate; and the Hesperian fruits and flowers, without protection, will soon decorate and enrich these northern regions.

It seems surprising that those theorists should per-

mit a few isolated facts from history, and a few random assertions from poetry to engross their attention to the total neglect of every surrounding circumstance.

Let us consider what happens in our forests. The fallen leaves prevent the soil from freezing in winter; the trees obstruct the radiation of heat in clear nights; the snow settles evenly through the woods; the cold winds are unable to throw it into drifts, and the warm winds to melt it till the commencement of spring. Many a green-house plant would abide the winter with such protection.

But with the removal of the forest, this shelter is withdrawn and the ground then freezes to the depth of several inches.

If it be alledged that the warm winds have more access, so have the cold winds. If the sun shines clearly on the open plain, its rays give more heat among leafless trees; and it is well known that *fields surrounded by woods produce earlier pasture than the open plain.**

But by what agent can a cultivated country disarm the wintry tempest of its rigor, when the mercury sinks below zero? How can it soften those freezing winds which overwhelm it for days together? On the vast surface of our inland seas, and on the wide spreading prairies of the west, cultivation can do nothing to affect the physical climate—for there are no forests to destroy.

In the *open country* of the Mandans,—not as far north as the city of Paris,—Lewis & Clark found the thermometer 43° below zero. At the Falls of St. Mary's *(near Lake Superior)* Dr. Foot found it 30° below on the 6th of February, and in the mornings of *the two last days of the month*, it stood 24° below zero.

We are near to regions that endure a polar winter; we are within the reach of their frozen atmosphere; and only can we hope for a milder climate when the north winds shall be restrained.

(To be Continued.)

ART. XL.—*Extracts from an Address delivered before the N. Y. Horticultural Society, the 8th of September*, 1829. By JOHN W. FRANCIS. M. D. —*With Remarks by the* EDITOR.

There are two classes of competitors for fame in rural studies—the medical profession, and the scientific farmer. In the former, botany has ever found amateurs and active promoters. The numerous and important discoveries and advances made in the animal, vegetable and mineral kingdoms, for the last half century, have had a very direct bearing on the medical courses of study, and have tended to enlarge the field of investigation and to sustain, if not to raise the relative standing of this most useful and respectable profession. The pulpit and the bar, though deriving peculiar and important aid from the changes and improvements in human society, have not had that flood of light poured in upon them, which has materially raised their character in a scientific point of view. The attention paid to botany and other branches of Natural History, has added to the usefulness of the medical profession, and connected it still more closely to the interests of man.

Although among the clergy there are many naturalists, still we think that the moral influences flowing from the cultivation of the rural sciences, are very inadequately appreciated by a great majority of them.

The general diffusion of information, and the elevated standard of education, for those designed to use the spade, or hold the plough, have already invited many to pass the vestibule, and penetrate far into the interior of the temple of science. In the natural sciences, particularly in physiological botany and practical chemistry, the farmer is destined to obtain a palm, that will ever sit gracefully on his brow. On these subjects, the productions of his pen will have the additional weight and authority, derived from observation and practical experiment.

The address before us, embodies much information and valuable suggestions. The style is chaste and clear. When placed among those delivered on a former occasion, it will send forth a beam of light, though not, perhaps, as brilliant as some, yet as vivifying.

"Of the innumerable establishments for the promotion of physical science, which diversify, embellish, and enrich France, and more especially of those which are devoted to botanical and horticultural knowledge, the present does not offer a suitable occasion to speak: but I may be permitted yet to notice one institution, which by universal consent, is the theme of admiration and praise to every one alive to the harmonies of nature. The garden of Plants founded by Louis XIII. is the noblest establishment of the kind in the world. Nothing even approaching to it has ever elsewhere been known. The spectator of this enchanted spot, will here find the eye delighted, and the imagination excited and gratified, while surveying the wonderful varieties and forms of beauty displayed by the vegetable products of every clime. Here he will feel himself almost transplanted as by enchantment, among the rich plains of India, and the heath covered wilds of Southern Africa; here he will find the resplendent blossoms of the Canna, the Sterlizia, and the maginficient foliage of the Bignonia and the Dombyia. From nature's self he may turn to the ingenuity and devices of man, the minister of nature.

"In inspecting the vegetable museum, he will here see Du Hamel's own specimens of his experiments on trees; the original herbarium of Tournefort and of Vaillant; the collections of the Michaux, and evidences without number, of the labors and scientific classifications of Jussieu, a true philosopher, the founder of the Ordines Naturales, a work which has divided the judgment of the profoundest investigators of the vegetable kingdom into two great parties, of Linneans and Anti-Linneans.

"The experimental department of the garden will exhibit to him, an almost endless variety of display in the mode of training fruit trees, whether standards or espaliers. The resources and tenacity of vegetable life, will be unfolded to him by the most unexpected and complex forms of successful ingrafting. In the year 1816, I visited this magnificent temple of nature, and its vast treasures were rendered the more accessible to my examination, by the kindness and civility of the venerable Desfontaines, the Professor of Botany to the Royal Garden, whose reputation is fixed in the list of nature's expositors, by the publication of his Flora Atlantica. The pride of nativity could not but swell

* It may be less known that some vernal flowers bloom finely in the woods while the same kinds are despoiled of their beauty by frosts in the open garden.

in my veins, when I was informed and saw with my own eyes, that pre-eminent among the magnificient and beautiful hardy exotics of the garden, shone our North American forest trees, the enduring Plantanus and the fragrant Magnolia.

"But this institution is devoted not only to the beauties of nature, but consecrated as the Temple of Science. In the walks of this garden Buffon composed his immortal History of Creation, portraying its character and depicting its beauties; forming the noblest chant to the glory of our Maker, in the illustration of his works. Would that this sublime genius had not sullied it by impurity, and debased it by ingratitude. What a striking example of the occasional obliquity of the human mind does he afford, who under the shade of the mightiest trees of the garden, the exotics of our own soil, could write that, in America, nature had belittled her productions.

Perhaps it was characteristic of him who could behold with philosophic composure, his own marble statue, with an inscription that transgresses all bounds of modesty, and might by the most liberal, be deemed impious.

"Majestati Naturae par ingenium!"
"A genius equal to the majesty of nature!"

"In this devoted spot, the no less distinguished Cuvier, under the patronage of the late Emperor Napoleon, has given system and symmetry to the science of nature, and completed that structure of which Aristotle, under the direction of Alexander, laid the corner stone. * * * * * * * * * *

"An arithmetical and geographical distribution has been made of vegetables: the total number of species of plants known, or believed to exist, amounts to 44,000; 38,000 of which have been described according to Humboldt and Brown; 7,000 of these belong to Europe. In temperate America in both hemispheres, 4,000; in equinoctial America, 13,000; of these 17,000, there are probably described about 3,500. What a field of inquiry does this present to our ingenious countrymen, and to the lover of philosophy every where? We need not marvel that Linnæus was desirous of visiting America.

"Catesby, in 1767, observed that a small spot of land in America, within less than half a century, furnished England with a greater variety of trees, than had been procured from all other parts of the world, for more than a thousand years past. How far there is reason for America to boast of her forests, we may learn from Michaux. 'It should be remarked,' says the younger Michaux, 'that the species of large trees are much more numerous in North America, than in Europe. In the United States there are more than one hundred and forty species that exceed thirty feet in height, all of which I have examined and described: in France, there are but thirty that attain to this size, of which eighteen enter into the composition of the forest, and seven only are employed in building.'

"A late English traveller, in his journey through the Western States, remarks on Kentucky: 'the scenery is peculiarly fine, with attendant cultivation. Here the trees attain an altitude and a size unknown in Europe.' In short, every additional information we derive from the researches and enterprize of enlightened adventurers, gives us additional proofs of the extraordinary natural riches of our vegetable world. Mr. David Douglass a practical botanist, who but very recently returned from an exploratory tour to the West Coast of North America, has communicated to the Horticultural Society of London, riches hitherto unknown in the products of the vegetable kingdom. Among them we find two new species of pine, of more gigantic dimensions than any hitherto described in Europe or America. One species (*Pinus Douglasii*) grows to the height of two hundred and thirty feet, and is upwards of fifty feet in circumference at its base. It is stated to have a rough corky bark, from one inch to twelve inches thick. The leaves resemble those of the spruce, and the cones are small. The timber is heavy and of good quality. It was found growing on the banks of the Columbia, where it forms extensive forests, extending from the shores of the Pacific to the Stony Mountains. The other species (*Pinus Lambertiania*) was discovered in Northern California, where it is dispersed over large tracts of country. It is a most majestic tree. One specimen, which in consequence of its having blown down, Mr. Douglas was enabled to measure, was two hundred and fifteen feet in length, fifty-seven feet nine inches in circumference at three feet from the root, and seventeen feet five inches at one hundred and thirty-four feet. It is thought to be the largest mass of timber ever measured by man; and yet some of the growing specimens of the same pine were evidently of greater elevation. A singular property of this tree is, that when the timber is partly burned, the turpentine looses its peculiar flavour, and assumes a sweetish taste. It is used by the natives as a substitute for sugar.† * * * *

"It will not, perhaps, be deemed foreign to the objects of this discourse, to suggest to the proper authorieties, the propriety of establishing in the vicinity of this city, or in whatever place may be most appropriate, an institution for the promotion of Agriculture, in a mode somewhat analogous to that of the Military Academy at West Point. An experimental farm, with a school for instruction in the various branches of preliminary education and agriculture, the teachers paid by the state, the student at liberty either to make compensation by labor on the farm, or by pecuniary remuneration for the expenses of his living; to each county the privilege afforded of sending a pupil for a certain number of years, and in proportion to its representation in the house of Assembly, would probably be the best means of furnishing to each portion and section of the state, every improvement which either philosophy or experience might contribute to this science. How far the interference of this society in favor of such a project, might aid in its accomplishment, or whether indeed the suggestion is worthy of their consideration, I leave to the determination of those who possess a more intimate and practical acquaintance with these affairs. 'The art of agriculture, (says Sir John Sinclair,) can never be brought to its highest degree of perfection, or established on rational and unerring principles, unless by means of experiments accurately tried, and properly persevered in. The ardent inquirer has too long been obliged to rely on vague opinions and assertions, which have not been warranted by sufficient authority. It is full time, therefore, by the establishment of experimental farms, under the sanction, and at the expense of government, or by enabling the Board of Agriculture to grant adequate premiums to deserving persons for new discoveries, to bring the art to as great perfection as possible,

† Library of Useful Knowledge, vol. ii.

by ascertaining the principles on which it ought to be conducted.'

"Whether the New-York Horticultural Society will be content in the present sphere of its usefulness, a usefulness admitted by the unanimous approbation of our citizens, and lauded by the soundest farmers of our country, depends, as all future operations must do, upon the available means it may command, and the energy and cordial co-operation of its members. In a wider sphere, objects of no less consideration, and, perhaps, of greater value, might justly demand a portion of its care, and the employment of its resources.

"Of the many subjects deserving particular inquiry, conspicuous among all others, would be a greater attention to trees, the ornament and defence of our nation.

Decus et tutamen.

'With the tree,' says Pliny, 'we plough the ocean and the land, and construct our dwellings.'

"Neither the federal government nor the several states, have reserved forests. The effect is already very sensibly felt in the large cities, where the complaint is every year becoming more serious, not only on account of the excessive dearness of fuel, but for the scarcity of timber. Even now inferior wood is frequently substituted for the white oak; and the live oak, so highly esteemed in ship-building, will soon become extinct upon the lands of Georgia.

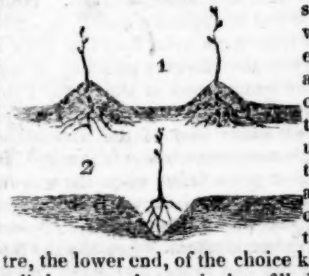
In an augmented sphere of action, this society would be obligated to throw light on those intricate subjects, the diseases of vegetable life and of domestic animals. Here is a vast and comparatively unexplored field, which if properly investigated, would give to the husbandman, a triumph for his toils, which he despairs of ever possessing in the present condition of our knowledge. The agriculturist who stocks his farm with foreign breeds, or cultivates our domestic animals with proper solicitude, would derive results from studies connected with the economy of animals and their disorders, and the comparative illustrations adduced from vegetable life, that could not fail to secure the most desirable results. We have reason to suppose that these pursuits were cherished with special regard in the early state of husbandry and rural economy.

The contested points concerning seedlings and ingrafttngs, demand our severest scrutiny. Mr. Knight's inferences, that those fruit trees which have for more than a century been propagated by ingrafting, and not from seeds, are liable to canker, and are not worth cultivation, have recently been ascertained to be too well founded. The golden pippin is fast wearing out, and the winter pears of England, have nearly disappeared. But fortunately, they have lately procured from our country, by means of our late President, the seckle pear, already of extensive growth among them, a fruit which they pronounce of an excellent flavor. I saw that the Plane trees (American *platanus occidentalis*) in the gardens of Chelsea, Oxford, and Cambridge, were all of them simultaneously in a state of decay, though they had flourished in these respective places for a long series of years. The conservators of those gardens, with all their philosophy, were unable to explain the cause. Do the products of grafting die with the parent stock? Miller long ago observed, that herbaceous plants propagated by cuttings, became sterile in a few years. Are there disorders of an epidemical and heredit ry nature among trees and vegetables? What is the cause of the calamity which has lately befallen the venerable elm both in this country and in Europe? Flax, so much neglected at present, might, with proper attention, become one of the most productive and profitable occupations of husbandry. It is one of the labyrinths of our policy to account for the present neglect on this subject.

[For the N. York Farmer.]

ART. XLI.—*Cultivation of Gooseberries in England.* By M. SAUL, of Lancaster, England.

In No. 4, Vol. 2, p. 98, you give an account of the culture of Gooseberries in England. I shall endeavor to give you a more descriptive account. This fruit is cultivated in Lancashire and Cheshire more than in any other county in England. The Cheshire cultivators grow the heaviest berries. The Gooseberry is found to do best in a warm moist situation. It is cultivated in this neighborhood in great abundance, both for the sale of the plants and the fruit, and makes a good return to the grower. The trees are pruned in November, and dug about, and some good old manure put in at the same time, which will well repay for the labor, as I have had them make shoots three or four feet in a season, after being treated in this way. These shoots are taken off my best shoots, and made into three or four lengths for planting in November. This season is preferred, as the cuttings often strike root, before Christmas, and are then better able to withstand the frosts of winter. The greatest part of the buds are taken off, leaving only two or three on the top, as seen in figure 1. In plantings, the drill is first made, as in figure 2, sloping on both sides, the cutting placed in the centre, the lower end, of the choice kinds surrounded with a little moss, the earth then filled in, raised round the cuttings and trod with the foot. The moss is found to be of service in making good roots, and if the following spring and summer are very dry, the cuttings are watered, and the moss assists in retaining the moisture. A little old dung may be spread on the surface, which will be washed into the soil by the rains. The plants are to be kept clean of weeds, and may be transplanted in November.



The common kinds cultivated by the market gardeners, are cultivated with little care, and are planted among apple and other trees and along the side of garden walks. The pot I have sent is my favorite preserve,* the brown Bob. The fruit of the Favorite, a green variety, of which I send you plants, will make tarts equal to the green gage plum. The Huntsman and Top Sawyer, whose fruits are large and well flavored, are the most difficult kinds to manage. For culinary purposes the Crown Bob, and Cottage Fame are prefered, and they are both great bearers. The heaviest this year at our shows, were *Red*, Roaring Lion, 25 dwts. *Yellow*, Leader, 22 dwts. 17 grs. *Green*, Invincibles, 23 dwts., 14 grs. *White*, Ostrich, 21 dwts., 11 grains.

* To a gentleman in Albany.

The following kinds are in most repute for flavor: *Reds*, Roaring Lion, Huntsman, Sir John, Overall, Lancashire Lad, Prince Regent, British Crown, Jubilee, Smolinsko, Pastime, Top-Sawyer, Boggard, Bang-up, Elisha, Alwick's King, Fox-hunter. *Yellows*, Rockwood, Viper, Delight, Queen, Charm, Sovereign, Cottage Girl, Gunner, Husbandman, Radical, Bunker Hill. *Green*, Ocean, Greenwood, Independent, Jolly Angler, Favorite, Troubler, Laurel, Mountain, Elijah, Profit. *White*, Wellington, Glory, Queen Ann, Nature, Smiling Beauty, Bonny Lass, Cheshire Lass, Queen Caroline, Conquering Hero, White Lion, Sheba Queen, Merry Lass, Queen Mary, Whitesmith, Governess.

M. Saul.

Lancaster, Eng. Jan 16, 1830.

[For the N. York Farmer.]

ART. XLII.—*Vitality of Seeds.*

The principle of life imparts to all organized beings, whether vegetable or animal, the power of resisting, to a limited extent, the ordinary laws of matter. Men have sustained a temperature of 40 degrees below zero, and a heated atmosphere of 260°, without serious injury, while their bodies indicated, in these extremes about the ordinary animal heat of 98, which never varied more than three or four degrees. It is well known that water freezes at 32°, and boils at 212°. Humboldt saw fishes alive and in apparent health, in a temperature of 210. Plants have been found to grow in hot springs, and Foster saw flowers growing, in high perfection in one, the temperature of which was 210°. Mr. Hunter ascertained that the heat of trees was always several degrees *above* that of the atmosphere when the atmospheric temperature was below 56?, but it was always several degrees *below* when the weather was warmer. The eggs of birds, while they retain the principal of life, indicate a temperature considerably above the surrounding medium. Some of the inferior animals, as reptiles and fishes, and many vegetables, seem to have their vital functions suspended, and to remain frozen or in a torpid state for a long time without injury. This tenacity of the vital principle is found also in seeds of many plants, which may remain buried for centuries, and afterwards grow, on being brought within the sphere of the germinating agents.

These facts in physiology, which I have abridged from No. 59 of the Library of Useful Knowledge, will account for many of the phenomena which meet our observation in the pursuits of husbandry. But I have introduced them here merely as prefatory of what I am about to state in regard to the alternations which take place in the growth of timber.

The farm which I occupy, with a considerable extent of the surrounding country, was within the memory of man, covered with a growth of pine. As this was cleared away, oaks, walnuts, wild cherry, chesnut, butternut, maples, &c. have sprung up with the new growth of pine. There is no evidence that any of these species of trees grew within a circle of miles, before the forest was felled, and the soil exposed to the influence of the sun. The land is unquestionably an alluvial formation of very ancient date. The question I would propound is this, were the seeds of this new growth deposited and covered by the waters, or were they transported thither by animals? If by the former, they must have lain dormant, and retained the principle of life for centuries; and if we adopt the latter conclusion we can hardly resist the supposition, that their deposit has been of long continuance. In either case, it shows a remarkable tenacity of life in seeds. I have witnessed these alternations in forest trees in several instances, particularly in the county of Ulster, where in one instance the new growth consisted almost exclusively of walnut, and in another of chesnut. The seeds of these could not have been conveyed by the winds; and it is almost equally incredible that they could have been carried by animals.

B. J.

ART. XLIII.—*On Grape Vines.* By George J. F. Clarke. [To the Editor of the Southern Agriculturist.]

A general enumeration and dissection of all the folly to be found under the character of art, when comparing the management of grape vines in different countries, would be as unnecessary to the man of reason and inquiry, as it would be futile with the prejudiced. There is one, however, from its great spread, and very general influence in augmenting work, and endangering and mystifying this culture, which ought to be noticed:—This is a practice founded on the erroneous opinion, that the grape vine is perpetually disposed to exhaust itself: which is, that it will grow and produce as much in one year, if not checked, as it ought to do in several; and by that means become puny, sick, or die outwright; as though this plant had the singular faculty, and unceasing propensity, of drawing in advance, and to its own ruin, on nature's exchequer.

From this extraordinary practice, vines that we want to ascend a stake six feet high, must be four or five years effecting it, (though they would run up twice the height in one,) by cutting them down to short stages, in order, as they tell us, to check their too great exuberance of growth! In the same spirit, vines are bled every two or three years by circular and longitudinal incisions, to get rid of the superfluous *sap*; others are twisted to check it. Even eyes of a conical and convexed form, and those that shoot their buds inclining East or West, are all of moment in relation to this *sap*. A supposed accommodation, limits too, the quantity of fruit the vine is allowed to bear; and greatly influences (as believed) the quality of wine they will produce. Even the life of the plant, and, at least, its duration to an advanced age, is made to rest on the safe bridling and sure guiding of this mysterious *sap*. All which, and much more, the boors of Europe, and many of their lettered gentry, understand (as they think) to a tittle, and manage to perfection. Another evidence that the most ignorant, are ever the most ready at assigning reasons, and explaining causes and effects; and that the informed are generally too indolent to examine before they adopt opinions.

The facts are, that the body of the vine, which ought to be of a piece, in kind as well as in length, like those of all other fruit plants, is in several splices, of as many years growth. I do not know that this is radically wrong; but it is not practically right, inasmuch as it calls forth considerable additional time, work, and art, to effect it; and a good portion of fruit is lost by it.

Moreover, the cutting off and joining in another part has left at each time a stump, three, four or five to each vine; which nature has to get rid of by rot and absorption, under a risk in each case, of leaving the vine ever after, a hollow body. Nor are the incisions without dangers, as well as being in themselves an absurdity. But books, &c. to the contrary, notwithstanding, would it not be better to run the vines up at once to their full height, or nearly so as possible; leaving formed at the same time, on those intended for stakes or trellises, as many side branches as may be wanted; and then regulate, as each cultivator may please, by cutting off the superabundant fruit, should there be any such? This would be my method, had it no other recommendation than to keep from perpetually peddling in cunning art, and bombastic mystifications.

There is no doctrine so bad as to contain nothing good; nor any so good as not to admit of improvement. Whoever has raised, or seen raised, oranges, apples, or peaches, cannot go much wrong in raising grapes even in their beginning; and then if not blinded by prejudice, they are sure to improve. My vote would be, that we should in all our trees, delight in and encourage their most vigorous growth, and hail their most bountiful crop of fruit; considering it an easy and welcome job to thin off, should the weight endanger their limbs; or should a little larger size in the fruit be more desirable than their quantity; leaving altogether to nature the stewardship of her *sap*.

With great respect, your obed't serv't,

GEORGE J. F. CLARKE.

St. Augustine.

Mr. EDITOR,—The following is selected from the Young Gardener's Assistant. It contains directions for sowing the seeds of many plants not generally introduced in this country. S.

ART. XLIV.—*The Kitchen Garden.*

ARTICHOKE.—*Cynara.*—The most likely way to obtain a supply of Artichokes in this country, is to sow the seed in the latter end of March or early in April, in a bed of good rich earth, or it may be planted in drills one inch deep, and about twelve inches apart. The ground should be light and moist, not such as is apt to become bound up by the heat, or that in consequence of too large a proportion of sand is likely to become violently hot in summer, for this is extremely injurious to these plants. After the plants are up, they should be kept free from weeds, and the earth often loosened around them.

At the approach of winter they should be covered up with straw, leaves, or light dry litter, and they will be fit to transplant in the following spring.

BROCOLI.—*Brassica oleracea Italica.*—In the Middle, and especially in the Eastern States, if the seeds of the late kinds be sown in March on a hot bed, and the earlier kinds in April and May in the open ground, and treated in the same manner as Cauliflower plants, it would be the most certain method of obtaining large and early flowers; but as only a part of these crops can be expected to come to perfection before the approach of winter, the remainder will have to be taken up, laid in by the roots, and covered with earth up to the lower leaves.

The proper time for sowing the seed of the Purple Cape Brocoli, is from the tenth to the twentieth of May; those who intend to provide a place for the winter keeping of other kinds, may now sow seeds of the most esteemed varieties at the same time, or in two or three separate sowings, a week apart.

When the plants are of sufficient size, they should be transplanted into extraordinary rich ground, which should be brought previously into good condition. This being done, plant them in rows two feet and a half apart, and two feet distance in the rows. As soon as they have taken root, give the ground a deep hoeing, and repeat this two or three times in the course of their growth, drawing some earth around their stems at the same time.

CAULIFLOWER.—*Brassica oleracea botrytes.*—In the early part of April, Cauliflower seeds may be sown in the open ground, the plants should be pricked out in May, and transplanted into good ground early in June to flower in the Fall: those that are not likely to flower by the last of October, should be taken up and provided for in the manner recommended for the Cape Brocoli.

It will be beneficial in the raising of Cauliflowers to defend them from the north west winds, by hedges made of reeds, or pales thatched with straw.

CELERY.—*Apium graveolens.*—Those who may want Celery for Summer use, should sow some seed of the White Solid in a slight hot bed early in March, but as plants raised in this way are apt to run to seed, it is much better to wait a fortnight, and sow some in a warm border. The seed for a general crop should be sown the last week in March, or early in April, in low but rich mellow ground; if it be sown in drills half an inch deep, and raked in even, it will produce strong plants by hoeing frequently between the rows.

CRESS.—*Lepidium.*—CRESS is a small salad herb, and is generally used with lettuce, white mustard or rape. It should be sown in little drills very thick, (as should the white mustard and rape,) and cut before it comes into rough leaf. A small quantity in the salad season, should be sown every week in clean rich ground.

LETTUCE.—*Lactuca.*—The seeds of the hardy kinds of Lettuce may be sown from the first to the middle of September in rich grounds free from weeds; it answers very well sown with Spinach, and should be covered over with straw at the approach of severe weather. These plants, if transplanted into warm borders, or in the open ground as early in March as the weather permits, will produce fine heads early in May. The best of the tender kinds may be raised early, by sowing the seeds in hot beds the first week in March, which being transplanted into good ground, will produce fine heads before the approach of warm weather. The other kinds may be sown in warm borders in March or April, and transplanted in May. The Coss Lettuce requires to be blanched; this is done by gathering up the leaves of the plants, and tying bass round them when grown to perfection.

All kinds of Lettuce intended for heading, should be planted into good ground, twelve inches distant from each other every way; the plants should be hoed every other week during their growth; the first hoeing should be done in about two weeks after they are transplanted.

If head Lettuce should be required at any other season than the spring, it may be obtained in the fall,

by sowing the seed in August, or in the winter by means of a garden frame and glazed sashes.

Nasturtium.—There are of the Nasturtitium a major and a minor kind; the former being of a large running growth is the most productive. The seeds of the running kind should be sown in April or early in May, in drills about an inch deep, near fences, or pales; or trellises should be fixed on which they can climb and have support; for they will always be more productive in this way than when suffered to trail on the ground. The dwarf kind may be planted in hills, two or three seeds in a hill.

Okra.—*Hibiscus esculentus.*—The green capsules of this plant are used in soups, and its ripe seeds, if burnt and ground like coffee, can scarcely be distinguished therefrom.

The seed should be planted in good rich ground, the first or second week in May. Draw drills about two inches deep, and four feet asunder, into which drop the seeds at the distance of six or eight inches from one another, or rather drop two or three in each place, lest the one should not grow, and cover them near an inch in depth, as they advance in growth thin them out, earth them up two or three times, and they will produce abundantly.

The *Potatoe Onion* is of late introduction into this country. It does not produce seed as other Onions, but is increased by the root. One single Onion will produce six or seven in a clump under groud similar to potatoes.

The bulbs should be planted in the spring from twelve to eighteen inches apart.

Parsley.—*Apium Petroselinum.*—As Parsley seed sown late in the season is apt to lay in the ground some time before it vegetates, the general crop should be sown by the early part of April, in drills an inch deep, and one foot asunder. After the plants are up, let them be kept clean by frequent hoeings.

Parsnips.—*Pastnaca Saliva.*—Parsnip seed may be sowed from the middle of March to the last week in April, in drills one inch deep and fourteen inches apart; but as this vegetable requires the whole season to grow in, the sooner the seed is planted the better. Parsnips grow best in a deep soil manured well in the fall. Sow the seeds thick along the drills, and rake them in evenly.

When the plants are two or three inches high, thin them to the distance of six or eight inches in the rows. They should be kept free from weeds through the summer; and in the fall they will be fit for use.

Pepper.—*Capsicum.*—The seeds of the different kinds of Capsicums may be sown in a hot bed in March or on a warm border early in May. The plants may be afterwards transplanted into good rich ground from eighteen inches to two feet distant from each other.

Salsify.—The seeds may be sown the latter end of March, or early in April, an inch deep in drills twelve inches apart. When the plants are two or three inches high, they should be thinned to the distance of six inches from each other, and afterwards hoed. The ground should be kept clean and loose around the plants, by repeated hoeings; and in the Autumn they will be fit for use. The roots may be taken up late in the fall, and secured in moist sand from the air; or be suffered to remain out, and dug up when wanted.

The mode of cooking recommended by an American author is, "to cut the roots transversely into thin pieces; boil them in water, or milk and water; when boiled soft, mash them and thicken the whole with flour to some degree of stiffness; then fry them in the fat of salt pork or butter; they are a luxury."

Scorzonara.—This plant has long been raised in British gardens for culinary purposes, and especially as an ingredient in soups, on account of its palatable and nourishing roots. Some boil and eat them like carrots; in which case they should be deprived of their rind, and immersed in cold water for half an hour, or they will be bitter. They are raised precisely in the same way as Salsify.

Sorrel.—The seeds of the Broad Leaved English Sorrel, and also of the Round Leaved or Erench Sorrel, may be sown in April or May, in beds or borders, and lightly covered. When the plants are up, keep them free from weeds; they may be afterwards thinned to the distance of nine inches from each other, or transplanted into fresh ground.

Skirret.—*Sium Sisarum.*—This plant is first cultivated by seed, and afterwards by ofsets taken from the old roots, and planted very early in the spring, and before they begin to shoot, but it is best to raise a small bed from seed every year, as the roots grow longer than those raised from slips, and are less liable to be sticky. The seed may be sown in drills the latter end of March, or early in April, and managed the same as Salsify, Parsnips, &c. In Autumn, when the leaves begin to decay, the roots will be fit for use, and continue so till they begin to shoot in the spring.

Skirrets should be planted in a light moist soil, for in dry land the roots are generally small, unless the season proves wet. The root of the Skirret is composed of several fleshy tubers, as large as a man's finger, and joining together at top. They are eaten boiled, and stewed with butter, pepper, and salt, or rolled in flour and fried, or else cold with oil and vinegar, being first boiled. They have much of the taste flavour of a Parsnip, but a great deal more palatable.

Spinach or Spinnage.—*Spinacia.*—If Spinach seeed be sown in rich ground in March and April, it will grow freely, but it must be cut before the approach of hot weather, or it will run to seed.

It is altogether useless to sow Spinach seed in poor ground: let the ground be well manured, with good strong dung, and it will well reward you for your trouble by its abundant produce.

The New Zealand Spinach is of late introduction into this country; its nature seems to be opposite to the common Spinach, as it will endure the heat better than the cold. It may be obtained in the summer, by planting the seeds in April aud May. Being of luxuriant growth, it should be planted in hills three feet apart, and about two seeds in a hill. The leaves will be fit for use during the summer, and until late in the fall.

The Tomatoe or Love Apple is much cultivated for its fruit in soups and sauces, to which it imparts an agreeable acid flavor; and is also stewed and dressed in various ways, and very much admired.

The seeds should be sown the early part of March in a slight hotbed, and the plants set out in the open ground the first week in May. In private gardens it will be necessary to plant them near a fence, or to provide trellices for them to be trained to, in the manner recommended for Nasturtiums; they will however do

very well if planted out four feet distant from each other every way.

Tomatoes may be brought to perfection late in the summer, by sowing the seed in the open ground the first week in May; those plants will be fit to transplant early in June.

ART. XLV.—*Usefulness of the New-York Horticultural Society.* By W. WILSON. [To the Editor of the New-York Farmer.]

SIR,—Actuated by a desire to see the Horticultural interests of our country promoted, and viewing as I do the favorableness of the situation of this Society for effecting this purpose, I would beg leave to state a few facts corroborative of this opinion, with the hope that they may contribute in some degree as an incitement to an active continuation of the labors of the members.

In proceeding to show the peculiarly favorable situation of this Society for advancing the improvements of horticulture, it will be necessary to take a glance of the general state of horticulture in these United States. The great cause which appears to have operated against much attention being paid to the art, or science of Horticulture, seems to be the very favorable nature of our soil and climate for growing all kinds of garden produce, without the necessity of employing either much art or skill. Except, therefore, in the vicinity of our large cities, few men have been employed exclusively in the labors of Horticulture. In such situations, however, great quantities of ground have been employed for the express purpose of raising fruits and culinary vegetables to supply the markets. This being the case, it is evident that in no other way can the advancement of our Horticultural improvements be so effectually and expeditiously promoted, as by an association for that purpose. This was the opinion of the first founders of this Society. They saw hundreds of acres, within a few miles of this city, cultivated as market gardens and nurseries, perhaps upon a more extensive scale, within the same limits, than in any other portion of the United States. Amongst the various cultivators of such extensive gardens, it was reasonable to suppose that while some surpassed those of mediocrity, others fell short in the management of their crops. And the great proportion of inferior articles that were raised and sent to market, proved beyond a doubt, that there was great room for improvement. The means for effecting which, were adopted by the formation of this Society—an event that has formed an interesting era in American gardening. Some of the doings of this association are exhibited on the records of our inspecting and visiting committees. These records show, already, to what degree of perfection our soil and climate have been capable of bringing almost every valuable species of fruit, and culinary vegetable; to know which from the actual results of the labors of practical men, is of great value, as the successful mode of culture being communicated to the Society, and published in their transactions, it is by that means not only secured from being lost, but is rendered accessible to the public at large, and what adds greatly to the value of the Horticultural improvements of this Society, they have only to be made known to the public, to render them available in every article of importance to every cultivator of the soil.

We have no experimental garden to be employed as the particular theatre for our labors as a Society. But in some respects we have what is better. We have members of this Society, who have cultivated upwards of a hundred acres in raising fruit, and culinary vegetables for the supply of our markets. We have others who cultivate more than a hundred acres as nurseries to furnish supplies of fruit trees, forest trees, ornamental shrubs, and flowering plants, besides cultivators of private gardens. Many of the market gardiners, and all the nurserymen cultivate also, greenhouse and other choice exotic plants. Every individual proprietor of these gardens feels anxious to excell in the introduction of new, and valuable plants, or in the superior culture of some fruit or vegetable.

The above, Sir, is certainly, an interesting view of the actual state of this Society.

The public are certainly benefitted by the labors of its practical men. But the generous public are not aware of the benefits which it is in their power to return. The procuring of articles for premiums, the publishing of their proceedings, &c. are attended with expense, to defray which, every one friendly to the institution should contribute. There are, also, many valuable works on Horticulture lately published, and always publishing, which it is of importance for the members of our Society, especially the practical ones, to be possessed of. This consideration has been attended to by the Society, and our library has lately been augmented by several valuable works on Horticulture and Botany. So that whether we view the situation of this Society in a physical, or intellectual point of view, I think it will appear evident, we have strong grounds to encourage a lively continuation of our united labors in promoting the art and science of Horticulture.

WILLIAM WILSON.

Remarks by the EDITOR.—In the *Southern Agriculturist*, published at Charleston, S. C., we find the following:—

"*Horticultural Societies* have sprung up with amazing rapidity in some of the Northern and Eastern states, and are likely to prove of much benefit. There exists one in Philadelphia, four in the state of New-York, one in the city, and three in the interior; and one at Boston, besides several others, of which perhaps we have not been informed. The New-York Horticultural Society is the oldest by several years; but it appears to us from the accounts we receive, that the one at Boston promises to be one of the most active, as well as useful, of all these societies. They have been, we believe, but little more than one year in existence, and appear already to have produced considerable effect. The members are zealous, and judging from the reports made through the New England Farmer, the society must be in a flourishing condition. Presents of new trees, plants, fruit, vegetables, seeds, &c. are numerous, and we cannot but congratulate our friends of Boston, on their success."

The New-York Horticultural Society has, unquestionably done much towards increasing the variety and promoting the culture of edible, fruit, and ornamental plants, but we think neither its usefulness nor its scientific standing, has corresponded with its favorable situation and circumstances. Located in the metropolis of the country, enjoying every kind of soil adapted to successful culture, a highly congenial climate, and the greatest facilities for the importation of foreign plants —patronised by the most wealthy and influential, and

having among its officers and members, men of science and practice, and yet much of its reputation and popularity is attributable rather to the favorable views entertained by the public of the objects of the society, and to the costly and fat dinners, than to the practical information, and extent and accuracy of scientific investigations exhibited in the transactions of the society.

The place of the meetings does not correspond to the dignity of the society, nor render encouragement or compensation to liberal exhibitors. The place of the meetings should be where the members could take their families and their friends to see the exhibitions and read publications on rural subjects. Indeed it is the only way to insure permanent popularity and to enlist the talent and science of our city. Any thing short of this is not justice to the many gentlemen who are, at almost every meeting, received as new members.

There have been improvements made within the last twelve months, and if the exertions of some of the active members are countenanced, the necessary renovation will be effected.

Art. XLVI.—*Miscellaneous.*

To prevent injury from Canker Worm.—Dr. Spafford recommends, in the N. E. Farmer, mercurial ointments spread on strips of cloth and closely tacked around the body of trees, to prevent the ascent of worms and to destroy them. It is considered cheaper, and has been found far more efficient, than tar, not requiring a renewal in the season.

Cleanliness promotes the Health of Trees.—The following is taken from London Mechanics' Register, of 1825, and from the result of the experiment, we infer that cleanliness is as salutary to vegetables as to animals, and that trees may be preserved by it from insects and the minute parasites which exhaust the juices of the plant, and thereby retard its growth.

"Experiment.—Two young beech trees, planted at the same time, in the same soil, at a small distance from each other, and equally healthy, were accurately measured; and, as soon as the buds began to swell, in the spring, the whole trunk of one of them was cleansed of its moss and dirt, by means of a brush and soft water. Afterwards it was washed with a brush and wet flannel twice or thrice every week, till about the middle of summer. In Autumn, they were again measured, and the increase of the washed tree was found to exceed the other, nearly in the proportion of two to one."

Geological Discovery.—It is said that a discovery has been made of an entirely new specimen of fossil organic remains, embedded in the liss of Lyme Regis, Dorsetshire, England. It is about a foot and a half long, has two immense sockets for the eyes, a long snout, a series of the finest vertebræ that have ever been seen in so small a creature, claws, fins like wings, and some beautiful fluted thorns like those of the ray, with the exception, that in the fish, they are not fluted.—*Anon.*

Cause of Consumption.—M. Flourens, a French philosopher, with a view to ascertain the effect of climate on pulmonary consumption, procured twenty-three chickens of a month old: six he kept in a mild regulated temperature; the remaining seventeen, he exposed to wet and cold; the lungs of fifteen of these soon became inflamed; six of them he then sheltered; of the eleven he left exposed, nine died of pulmonary consumption, and only two recovered: not one of the six original sheltered ones became diseased; and of the six partially diseased, but afterwards taken in, two died, and four recovered. The lungs of these four were examined some months after, and the remains of disease, even to suppuration, were visible. Their recovery M. Flourens attributes entirely to a timely removal to a mild atmosphere.

Duels of Bees.—In those fine spring days in which the sun is beautiful and warm, duels may often be seen to have taken place between two inhabitants of the same hive. In some cases the quarrel appears to have begun within, and the combatants may be seen coming out of the gates eager "for blows." Sometimes a bee peaceably on the outside of the hive, or walking about, is rudely jostled by another, and then the attack commences, each endeavoring to obtain the most advantageous position. They turn, pirouette, throttle each other; and such is their bitter earnestness, that Reaumur has been enabled to come near enough to observe them with a lens, without causing a separation. After rolling about in the dust, the victor, watching the time when his enemy uncovers his body by elongating it, in the attempt to sting, thrusts its weapon between the scales, and the next instant its antagonist stretches out its quivering wings, and expires. A bee cannot be killed so suddenly, except by crushing, as by the sting of another bee. Sometimes the stronger insect produces the death of the vanquished by squeezing its chest. After this feat has been done, the victorious bee constantly remains, says Reaumer, near his victim, standing on his four front legs, and rubbing the two posterior ones together. Sometimes the enemy is killed in the hive; then the victor always carries the corpse out of the city, and leaves it. These combats are strictly duels, not more than two being concerned in them; and this is even the case when armies of bees meet in combat.—*History of Insects.*

Average Price of Vegetables sold at Washington Market, in the months of January and February, 1830. [Corrected by William Curr, Gardener, for the N. Y. Farmer.]

Cauliflowers, from $1 to 1 25 per doz. *Brocoli*, from 75 cents to $1 per doz. *Cabbage*, from 25 to 50 cents per doz. *Lettuce*, from 12½ to 25 cents per doz. *Scotch Kail*, from 25 to 37½ cents per doz. *Savoys*, from 25 to 50 cents per doz. *Celery*, from 3 to 6 cents per bunch. *Leeks*, from 3 to 4 cents per bunch. *Parsley*, 3 cents per bunch. *Leeks and Parsley*, 12½ cents per bunch, of 10 small bunches. *Corn Sallad*, from 12½ to 25 cents per half peck. *Salsify*, 6 cents per bunch. *Parsnips*, from 50 to $1 per hundred. *Beets*, from 50 to $1 per hundred. *Carrots*, 37½ to 75 cents per hundred. *Turnips*, from 18 to 37½ cents per bushel. *Onions*, from 25 to 62½ cents per bushel. *Spinnage*, from 37½ to 75 cents per bushel. *Potatoes*, from 25 to 43¾ cents per bushel. *Horse-Radish*, from 3 to 4 cents per bunch. *Apples*, from $1 25 to 2 25 per barrel. *Sweet-Potatoes*, from $1 to 1 50 per bushel. *Pot and Medical Herbs*, from 8 to 10 bunches for 12½ cents.

Although in the month of January and early part of February there have been very severe frosts, yet the supply of most of the above vegetables has been very abundant.